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THE VALUE AND LIMITATIONS OF SALT-FREE DIET AND RESTRICTION OF FLUID IN NEPHRITIS *

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Whatever one says under this title must be said with some caution and with a right reserved to change opinion with advance in knowledge. Although nearly one hundred years have passed since the question of the nature of the toxic constituents of the urine was first submitted to experimental inquiry, it cannot be regarded as yet settled. We can not to-day name all the poisonous constituents of the urine. I am not going into the literature of this subject in this paper, because it is too voluminous, in many points contradictory in its findings and unsatisfactory in the conclusions reached. The following points seem to be fairly well established:

1. Urea and uric acid are not important constituents of the urine so far as their toxicity is concerned. I mean to say that neither of these can be regarded as the active agent in the causation of those symptoms that result from failure to function on the part of the kidney.

2. About 85 per cent. of the toxicity of the urine is due to its inorganic constituents, the most toxic of which is potassium chlorid.

3. There are present in normal urine certain organic poisons, the nature of which has not yet been ascertained.

4. Although the inorganic constituents, notably potassium chlorid, are markedly poisonous, they can not be regarded as standing in a direct causal relation to that complex of symptoms which we designate as uremia. A small fraction of a grain of potassium chlorid, as I have frequently demonstrated, injected into a ventricle of the brain of an animal, may cause prompt death, but neither the symptoms nor the postmortem findings are those of uremia.

Of one thing I feel quite confident, and that is in withholding salts from our nephritics we are not withholding the direct cause of uremia. The best that we can hope for in the use of a salt-free diet is to protect the kidneys by decreasing to a certain extent their labor and thus conserving their capacity as organs of elimination. The inorganic salts, and certainly the chlorids of sodium and potassium, are not, singly or combined, the active and direct cause of uremia. Any inorganic salt above that needed in the processes of metabolism is without benefit to the body and increases unnecessarily the stress of work thrown on the kidneys, and, when these are already diseased, it is in accord with good sense to lighten their burdens so far as can be done without danger.

There are some reasons for suspecting that the inorganic salts of normal urine, carrying about 85 per cent. of the toxicity of this fluid, and the organic constituents, carrying the remaining 15 per cent. of toxicity, partly neutralize each other. At least it has been repeatedly found that the ash of urine is decidedly more toxic than the whole urine. This fact has been observed by Bouchard, Stadthagen and others. I have repeated this test several times with the urine of both herbivorous and carnivorous animals, also that of man, and have invariably found it true. It has been suggested that it is due to the conversion of the chlorid into a more poisonous carbonate on incineration, but I have been unable to find any evidence of carbonate in the ash which I have injected, and it has occurred to me that possibly there may be some neutralization between the inorganic and organic constituents. This is a problem that seems worthy of more extended study.

There is evidence that an absolutely ash-free diet may soon disturb the health of a normal individual. Taylor[1] has prepared such food and used it himself. He says:

> "The symptoms were those of lassitude until about the sixth day, when I noticed a great deal of cutaneous irritation and generalized muscular twitching with excitation of the reflexes. The equilibrium of the entire system became disturbed; I lost the power of sleep; the irritability was extreme. At this time the acetone complex appeared apparently suddenly. I therefore realized that I was near the danger point, stopped the experiment, resumed ordinary diet and within a few hours after the ingestion of alkalis, the symptoms disappeared entirely."

This experiment was repeated on two men by Goodall and Joslin,[2] who failed to induce the acidosis experienced by Taylor. This matter also needs further study. In all of these experiments the amount of sodium chlorid in the daily urine diminished to about 0.2 gm.

In dogs long-continued feeding of a salt-free diet materially reduces the acidity of the gastric juice. So far as I know, no experiments along this line have been made on man. It has been repeatedly shown, however, that it is difficult and probably impossible to reduce the amount of salt in the living tissues below a certain, fairly well-defined minimum. Life is no longer possible when this reduction passes this point. The molecules of living cells do not function when the content of inorganic salt falls below this minimum, which varies in different animals and in the different organs and tissues of the same animal. Notwithstanding all the excellent work that has been done on metabolism, we are hardly warranted in making more exact or positive statements on this subject. It is generally held that the chlorids of

* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

1. Taylor: Tr. Assn. Am. Phys., 1907, p. 245.
2. Goodall and Joslin: Tr. Assn. Am. Phys., 1908, p. 92.

the urine are not in organic combination, but, as I have stated, it has been repeatedly found that the ash of urine is more toxic than the whole urine. Moreover, single inorganic salts may be more poisonous when injected intravenously than mixtures of several salts. There are, therefore, reasons for suspecting that the inorganic constituents of the urine are not only in part neutralized by the organic, but also in part by one another. The fallacies of Bouchard's method of determining the toxicity of the urine has been repeatedly pointed out, and his conclusions can not be accepted as final. Besides, it should be evident that poisoning due to the retention of normal constituents of the urine and uremia are two quite distinct and different things. Many years ago Rees reported a case in which there was only one kidney, and, this becoming blocked by a calculus, there resulted complete anuria. The man died, but not from uremia. Cases of prolonged suppression have been repeatedly observed and, although these may terminate fatally, death is not due to uremia. In uremia the poison results from a radical change in metabolism, and the active agent produced is not one of the normal constituents of the urine. It is possible that protein sensitization may give us more exact information concerning the nature of the poison elaborated in uremia. But the one point that I wish to emphasize in this paper is that poisoning from anuria and uremia are two distinct things, and, while the inorganic salts are the most poisonous constituents of the urine, their retention in the body can not be regarded as the cause of uremia—certainly not the direct cause.

In 1903 it was suggested by Widal that nephritic edema is due to chlorid retention, that with the disappearance of the edema the elimination of chlorid is increased, and that the proper treatment of the edema of nephritis should provide a diet that is largely salt-free. The reasoning in this statement seems to be good, but the experience of clinicians has not been so satisfactory as the earlier reports led us to expect. In Widal's first case the edema seemed to fluctuate directly with the amount of salt in the food and it was suggested that the milk diet, so long and favorably known in the treatment of nephritis, might owe its success largely to the fact that it contains only a small amount of sodium chlorid. Moreover, there is some clinical evidence that edema does increase the danger of uremia. At least uremic symptoms have been seen to disappear with the disappearance of edema and to return with the accumulation of fluid in the tissue. That there is a causal relation between edema and uremia does not, however, seem probable, because the latter is frequently seen in interstitial nephritis when the former is absent or but slightly developed. Edema in nephritis is due to diverse causes, and certainly not always to salt retention. In acute nephritis it seems to be due to the effect of the poisons on the walls of the vessels. In many cases of chronic nephritis, edema is due to circulatory disturbances and is best combated by agents directed to these causes. In amyloid nephritis it is again toxic. In a certain small percentage of cases of chronic parenchymatous nephritis the edema is apparently markedly influenced by the quantity of salt in the food, and it is in these that the best results are obtained by reduction of the salt in the food. Even in these the improvement is limited to the reduction of the edema. I do not deny that this is of sufficient advantage to be worth doing. It seems to me that the greatest good is to be secured by restricting salt in the food of those patients who may be called prenephritics. We frequently meet with patients of this kind. They are men and women past the prime of life who have been unduly energetic, often of good habits, with the exception of the tendency to overwork. The heart has been unduly taxed; they get out of breath easily; occasionally they grow dizzy. Blood-pressure is high. There may be a trace of albumin in the urine or the most careful and frequent examination may fail to show this abnormality. I am in the habit of advising patients of this class to have their food prepared without the addition of salt. I do this for the following reasons: 1. They can educate themselves to eat unsalted food. I am positive that we eat too much highly salted food. 2. With unsalted food they drink less. Vesicular fulness can be induced by water as well as by beer. 3. The kidneys are relieved of excessive work in eliminating excess of both salt and water. Otherwise I have never been satisfied that I have seen any benefit in any form of nephritis in denying the patient the satisfaction of his thirst.

Milk contains about 2 gm. of sodium chlorid per liter, and on an exclusive milk diet three liters per day supply the necessary calories for the average man. On such a diet the individual receives daily about 6 gm. of salt, and this seems to be all one needs in health or in disease. A mixed diet of unsalted meat, potatoes, bread, butter, fruit, sugar, cream or milk and coffee or tea of equal caloric value contains in the daily ration about 3 gm. of salt, and this may be increased by the addition of an equal amount if the taste is objectionable.

Time will not permit me to take up the interesting subject of the mechanism of nephritic edema, but I will call attention to a recent contribution to this subject by Bence,[3] who has shown that there is an increase in the volume of blood and edema appears in renal insufficiency even when there is no fluid taken into the alimentary canal; but, of course, both of these conditions are increased when much water is ingested. It seems only good sense, therefore, to limit the consumption of fluid in nephritis so far as possible without distress to the patient, but it should be understood that edema develops in experimental animals in which nephritis has been induced by the subcutaneous injection of uranium salts even when such animals are denied any fluid.

THE CAUSES OF HYPERTENSION IN NEPHRITIS *

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Of the causes of hypertension in nephritis we have no exact knowledge. The theories which have been elaborated are based mainly on deductions from clinical experience or to a slight extent on experiment. Neither the clinical experience nor the experimental evidence is at all conclusive; but each in its way points to an explanation through the action of some chemical substance influencing the circulatory system. What this substance is and how it acts we do not know.

Clinically we have the very important observation that hypertension and heart hypertrophy come in that group of renal diseases in which uremia is also prone to occur, while both fail in practically all other forms, as tuberculosis, pyonephrosis, hydronephrosis, cystic kidney and the kidney of acute sepsis. In other words, hypertension, like uremia, is an evidence of renal insufficiency. It is naturally suggested that the poison of uremia is identical with that causing hypertension, or, if

3. Bence: Ztschr. f. klin. Med., 1909, lxxvi, 69.

* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

different, is formed at the same time and due to the same causes; or possibly one is a derivative of the other as the result of some process of chemical disintegration. If the same poison, it is possible to conceive that in small amounts it affects the vasomotor apparatus (hypertension) and in large amounts exerts a toxic effect on the nervous system (uremia). Or, if two or more poisons are concerned, each may have special affinities.

In support of this chemical theory we have the frequent clinical experience that the degree of the uremic manifestations (headache, vomiting, unconsciousness) and the recovery from these have a close relation to the blood-pressure. Moreover, true uremia without hypertension seldom occurs.

In connection with this chemical theory or retention theory, the effect of diet also is suggestive. Experiments on patients with chronic nephritis have shown that rich protein diet increases tension and disturbs the general condition of the patient for the worse. Müller describes an individual in whom a change from milk and carbohydrate diet to rich meat diet caused pressure to rise from 140 to 190. Rich meat diet causes, in nephritics, headache, one of the earlest and most constant symptoms of uremia, and one which has a definite relation to hypertension.

All this probably means a retention of the products of nitrogenous metabolism, and possibly of that nitrogen which in the urinary partition is known as "rest" or undetermined nitrogen. The increase of these substances in the blood of that group of renal diseases in which uremia occurs suggests that not only may they be the cause of uremia, but that among them may also be the substances responsible for the increased tension. Aside from this theory, which attempts to explain clinical observation, we can at present add nothing to the view that hypertension is to be explained by retained products of metabolism.

Another view, which I think we can dismiss briefly, is that of the internal secretion of the kidney. This is based on Tigerstedt's observations that extracts of rabbit's kidneys contain a pressor substance, which substance Forlarini and Riva-Rocci consider may be increased in diseased kidneys. Little evidence has been brought forth to support this theory, and the most recent study, that of Pearce, was entirely negative in its results.

Another closely related theory is that which assumes a correlation between the kidney of chronic interstitial nephritis and the secretion of the adrenal. This theory was advanced by French investigators, led by Vaquez, three or four years ago. They describe a localized or diffuse hyperplasia of the adrenal accompanying chronic nephritis in those cases which do not run too rapid a course. This hyperplasia is considered as an indication of the hyperactivity of the functions of the gland; that is, essentially a condition of hyperadrenalism. Naturally the theory has a relation also to the arteriosclerosis associated so constantly with the interstitial type of nephritis. Although the correspondence between the renal lesion and the hyperplasia of the adrenalin is very suggestive and the occurrence not infrequent, there is some doubt as to the interpretation. Several German investigators, and in this country, Pearce, ascribe the anatomic changes in the adrenal, in part at least, to the influence of the local nutritional disturbances caused by local arteriosclerosis. As reports multiply, and the lesions are found in other conditions than "contracted" kidney, the importance of the observation diminishes.

Of interest in connection with the theory just described are the attempts to demonstrate adrenalin or adrenalin-like substances in the serum of nephritics. This work is based on Meltzer's observation that adrenalin causes dilatation of the pupil of the frog's eye. According to Ehrmann, the method is sufficiently delicate for the detection of adrenalin in dilution of 1 to 1,000,000. Clinically the method is associated with the names of Schur and Wiesel, who found that the serum of patients with chronic nephritis caused almost uniformly mydriasis of the enucleated frog's eye. The serum of normal individuals and of individuals suffering from other diseases failed to produce the same results. Several observers have confirmed these results, but there is some dispute as to whether or not the action is due to adrenalin. That it is, is denied by Schlayer, on the basis of his work with the "vessel-strip" method, which gives positive results with normal serums and no different results with nephritic serums. Be this as it may, no explanation of the presence of the mydriatic body is at hand unless it be that of the French investigators and that, we have seen, is hardly satisfactory. More evidence must accumulate before a definite opinion as to the value of these observations can be reached.

As is well known, the chief difficulty in explaining hypertension in chronic interstitial nephritis is the almost constant presence of arteriosclerosis. The absence of definite knowledge of the sequence of events makes the problem a complicated one. It is still a question whether the kidney injury is primary and leads to arteriosclerosis as the result of a hypertension of renal origin, or whether a poison first affects the blood-vessels, and the kidney secondarily through the disease of its own arteries. The latter view appears to be the one gaining adherents, but it is well to remember in this connection that many poisons may simultaneously affect the kidneys and the vascular system.

On this general subject some light has been thrown as the result of the study of renal diseases following infectious diseases, in which hypertension appears to be primary and the heart hypertrophy and arteriosclerosis secondary. The hypertension associated with the glomerulonephritis of scarlet fever is of peculiar interest. Usually one thinks of hypertension coming on gradually in the course of a chronic disease, but in scarlatinal nephritis it may develop very early (Mahomed and Müller); indeed, in the course of a few days. Here certainly heart hypertrophy or arteriosclerosis can be ruled out, for in scarlet fever four weeks at least are necessary for hypertrophy (Müller) and the scarlet fever age is not that of arteriosclerosis. For such an early hypertension the only explanation which can be offered is increased peripheral resistance—a contraction of arterial terminals—as the result of some chemical influence; but this brings us again to the theories discussed above, concerning which we could come to no definite conclusion.

The frequency of the association of glomerular lesions with hypertension is of considerable interest. Schmidt, working with Krehl's material, has emphasized this relation and A. Loeb holds that heart hypertrophy occurs only in those forms of nephritis in which the glomeruli are diseased and in large part impermeable. He points out that in the forms of nephritis with degenerative epithelial lesions only, hypertension does not occur; it is peculiar to scarlatinal nephritis and contracted kidney.

This is an important field for investigation: first, as to tension in various forms of epithelial lesions, especially those of the acute infectious diseases; and, second,

a cooperation between the clinician and the pathologist as to the relation of hypertension to histologic changes, with special regard to the glomeruli.

Experiments definitely demonstrate that the high pressure associated with glomerular lesions can not be explained by the earlier theory of diminution of vascular territory in the kidney. Loeb offers the following hypothesis:

Since the renal activity varies directly with the blood-supply, lesions of the glomeruli would limit local vasodilatation. When the renal activity demands more than the local conditions allow, the stimulus goes beyond the kidney and there is exerted reflexly a splanchnic contraction which leads to an increased systemic tension and then an increased flow of blood through the glomeruli.

This explanation, hypothetical as it is, brings out very prominently the fact that hypertension, be its cause what it may, is essentially a conservative process having for its object the maximum functioning power of the kidney.

Passler and Heineke have attempted to explain the problem by reducing the kidney substance of animals by successive excisions. They found that after two-thirds to three-fourths of kidney was removed a certain proportion, about 25 per cent., of the animals developed a permanent increased tension with heart hypertrophy. In such animals it was also observed that arterial spasm with a further rise of pressure quickly followed certain stimuli which in normal animals would produce little effect.

They conclude that in the state of renal insufficiency so produced the heart hypertrophy is due to the increased work resulting from the tendency to arterial spasm and that this in turn is due to the effect of retained toxic substances.

So again we come back to the chemical theory of retention—all theories except that of vicarious adrenal secretion return to this point—but of the substances "retained" we know nothing. Herein is the problem of the "causes of hypertension in nephritis"—a problem to be solved only by the methods of chemistry and physiology directed by careful clinical observation.

P. C. Janeway (Prof. Soc. Exper. biol. and Med., 1909, vi, 108-109) has furnished a brief account of a study of the blood pressure in dogs with insufficient kidney substance. Instead of excising a portion of the kidneys he caused destruction by ligating some of the branches of the renal arteries. Also, instead of studying the pressure by direct measurements from the carotid, he modified the Riva-Rocci cuff so that the clinical method of taking blood pressure could be applied to the dog. Thus observation could be made from day to day with a limit of error of only 10 to 15 mm. Hg. I have found that a decided increase of blood pressure occurred after destruction of kidney substance by ligating. Thus in one animal, with an average pressure before operation of 90 mm., a rise to an average of 125 occurred after 100 days; and in another a rise from 117 to 150 mm. occurred after only 35 days. Janeway does not discuss the mechanism by which the hypertension develops.

NOTE.—I gratefully acknowledge my use of the literature of this subject as summarized by the following writers:

Müller, F.: Morbus Brightii. Verhandl. d. deutsch. path. Gesellsch., 1905, ix, 64.

Janeway, T. C.: The Clinical Study of Blood-Pressure. D. Appleton & Co., 1904, New York.

Pearce, R. M.: The Theory of Chemical Correlation as Applied to the Pathology of the Kidney. Arch. of Int. Med., August, 1908.

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CLINICAL VALUE OF RECENT STUDIES IN EXPERIMENTAL NEPHRITIS *

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A symposium on nephritis at the present time quite fittingly is opened with a reference to the results of recent work in experimental nephritis. This, however, is not the case so much because the results as yet are of very great importance, but rather because it seems likely that the experimental method applied to the study of nephritis will in the future throw much light on the problems of the disease.

The history of the study of nephritis is not long. With Bright in 1827 begins our accurate knowledge. He it was who linked together in causal relation the symptoms, albuminuria and edema, and the lesions in the kidney. Keen observers added fact after fact for fifty years and more. Technical improvements widened the field of observation, so that a period, which we may arbitrarily end in the early part of the present decade, had contributed much to our knowledge of nephritis through the work of pathologists and clinicians. Yet our knowledge remained largely a knowledge of results rather than a knowledge of causes and progressive development, and many were the gaps in our knowledge, great the discrepancies between clinical observation and postmortem finding. In the present decade the experimental method has been applied increasingly in the study of disease in the hope that by it our knowledge of the life-history and causes of disease might be extended. Nephritis has been studied in this way and certain results have been obtained.[1]

I am not asked to review the numerous experimental studies of nephritis that have been published in recent years, but to indicate what clinical bearing, if any, this work has. If we turn to nephritis in man, we find the following phases of the disease of much clinical interest: the urinary changes, particularly the albuminuria and cylindruria, the uremia, the edema, the hypertension and associated cardiac hypertrophy, and, finally, the cause and the cure. Do our studies of experimental nephritis help in a better understanding of any of these? To answer this I will consider these points in the order named.

URINARY CHANGES

There has been a very general consensus of opinion with regard to albuminuria in nephritis. The albumin of the urine, in very large proportion, comes from the soluble proteids of the circulating blood and appears in the urine as a result of a pathologically increased permeability of the glomerular tuft. Degeneration of the epithelial cells of the tubules may have a small part in producing the condition. Experimental work confirms this view.

Cylindruria has received two interpretations. One of these assumes that the albuminous material constituting the cast arises from the albumin of the blood, which, after excretion through the injured glomerulus, becomes changed in physical properties so as to fuse together into a homogeneous coagulated mass, a cast. The other theory assumes that the albuminous material of the cast is derived from the albuminous material of the epi-

* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

1. Christian: Experimental Nephritis (a review of recent literature), Boston Med. and Surg. Jour., 1908, civlii, 416, 452.

thelium lining the tubules, which becomes fused together and more or less homogeneous so as to make up a cast. This latter theory does not assume that there has been any very great change in the physical composition of the albuminous material between its cell origin and the cast, since cells and casts present in the urine show many identical physical properties.

The origin of urinary casts has been studied in nephritis produced experimentally. A variety of irritants, such as cantharidin, corrosive sublimate, uranium nitrate, potassium bichromate, etc., when given to animals, will produce changes in the kidney leading to the appearance of albumin and casts in the urine. Wallerstein,[2] among others, has conducted such experiments and concludes that all casts are formed from degenerated, disintegrated and metamorphosed tubular epithelium. Ribbert[3] and Schlecht,[4] on the other hand, studying the excretion of carmine through the kidney, have concluded that the hyaline casts are derived from the albumin excreted through the glomeruli, while the granular casts are derived from tubular epithelium.

In our laboratory at Harvard this subject has been investigated by Dr. R. M. Smith,[5] who employed rabbits and used a variety of irritants. Roughly, the irritants used may be divided into two groups: those which produce extensive changes of a degenerative character in the tubular epithelium (uranium nitrate, potassium bichromate and mercuric chlorid), and those which, while producing evidence of acute nephritis, produce comparatively slight changes in the tubular epithelium (cantharidin and arsenic). By varying the size of the dose of these irritants, by varying the number of doses, by varying the time interval between the doses, by varying the length of the experiment, which ends either in the spontaneous death of the animal or in killing the animal, it is possible very largely to control the lesions, and in this way there comes a manifest advantage in the experimental method as compared with a study of postmortem lesions in man.

It was found in this work that the irritants which produced marked degenerative changes in the epithelium of the tubules gave rise to a more abundant cast formation than did the other group of irritants. The urine of the animals employed, rabbits, was collected and the number and character of the casts was studied from time to time. By those irritants which produce most marked degenerative changes of the epithelium of the tubules most casts are produced, indicating that there is a close association between changes in the epithelium of the tubules and cast formation. By studying histologically kidneys of animals receiving different irritants in varying dosage, cast formation could be traced morphologically. The first change seems to be a granular degeneration of the epithelium lining the distal convoluted tubules, which increases in severity until the epithelium becomes converted into a granular material more or less completely filling the space bounded by the basement membrane of the tubule. This granular material is composed of remains of both cytoplasm and nuclear material. While this process is going on, fluid is presumably excreted through the glomerulus, so that there is a current of excreted fluid along the tubules which washes this granular material into the lower levels of the tubules. Toxic substances used in this way cause very slight degenerative changes in the epithelium lining the collecting tubules, and so the granular material washed down in the collecting tubules comes in contact with quite normal epithelium. In this process of passing along the tubule the granular material seems to become fused into plugs molded by the shape of the collecting tubule, and by the time the mass reaches the hilum of the kidney it is a well-fused granular plug, which floats out into the urine as a granular cast.

In the earlier stages of the process, urine analysis shows the presence of a number of casts, at first coarsely granular, later more finely granular. With a longer interval, or with a less intense local process, urine analysis shows casts more hyaline in character, and the sections from the corresponding kidneys show that in the lower levels of the tubules there are present plugs varying in homogeneity, and always in the older processes being quite distinctly hyaline. Even in the very chronic lesions, application of appropriate staining methods shows in these very homogeneous, hyaline, highly refractile casts the presence of numerous granules staining in every way identically with the granules that are in renal epithelium. So that from a morphologic point of view, supported by the results of urinary analysis, it would seem that both granular and hyaline casts in these animals arise from degenerative processes in the epithelium, and that the granular casts come early, the hyaline casts late, that there is a progressive transformation between granular and hyaline casts, and that granular casts appear to be formed quickly and excreted early, while hyaline casts are formed slowly and excreted late. These observations on animals are in harmony with the observed conditions in man, and would satisfactorily explain cast formation in most cases, though possibly not in every case.

Cast showers are occasionally observed in man. Experimental study has given some explanation of this. In Mackenzie's laboratory in Toronto[6] it has been found that in experimental nephritis, if, at a time after the casts have very largely ceased to appear in the urine, the renal artery is dissected out and physiologic salt solution is irrigated through the kidney under some pressure, a certain amount of fluid will be excreted through the ureter, and this will be found to contain a very large number of casts, largely hyaline in character. It would seem that, with a cessation of the active process, casts that have been formed have remained stored in parts of the tubules and gradually become hyaline in character; with increased flow of fluid through the renal vessels these will be washed out in large numbers. A similar acceleration of renal circulation with accompanying diuresis would in man similarly flush out a large number of casts and produce cast showers.

UREMIA

A number of theories have been advanced to explain the condition of uremia. Most of these assume the presence in the body of the nephritic of some toxic substance which, accumulating up to a certain point, produces the symptoms which we know as uremia. Attempt has been made experimentally to produce a similar condition in animals by means of nephrectomy, by ligation of the ureters, and by the administration of various irritants. In this way toxic conditions undoubtedly are produced which have some analogy to uremia in man,

2. Wallerstein: Experimentelle Untersuchungen über der Entstehung der Harnzylinder, Ztschr. f. klin. Med., 1906, lviii, 296.
3. Ribbert: Die Abscheidung intravenös injizierten gelösten Karmins in den Geweben, Ztschr. f. allg. Physiol., 1904, iv, 201.
4. Schlecht: Experimentelle Untersuchungen über der Resorption und der Ausscheidung des Lithionskarmins, etc., Beitr. z. Path. Anat., etc. (Ziegler's), 1907, xl, 312.
5. Smith: The Origin of Urinary Casts; an Experimental Study, Boston Med. and Surg. Jour., 1908, clviii, 354.
6. Unpublished Experiments Reported by Mackenzie at the Meeting of the American Association of Pathologists and Bacteriologists, held in Boston, April 9 and 10, 1909.

but the recognition in animals of symptoms, which may be regarded as truly uremic in the sense of this condition in man, is so exceedingly difficult that at the present time no great advance has been made, and it cannot be said that studies of experimental nephritis have thrown much light on the condition of uremia beyond giving support to the view that the condition is a toxic one associated with renal lesion.

EDEMA

From the earliest period of the work on nephritis the relation of edema to nephritis has been the subject of much discussion and investigation. The attempt of morphologists to correlate edema with certain types of renal lesion has been only very partially successful, and morphologic studies have yielded no explanation of the occurrence of edema. In recent years physicochemical methods have been applied and especial emphasis has been placed on salt retention with corresponding changes in osmotic tension. Analyses of food intake and urine output with respect to sodium chlorid seemed to show that in cases of nephritis with edema there was a deficient salt excretion and that the edema fluctuated in proportion to the salt intake. Widal and a group of French observers[7] have placed particular emphasis on salt-free diet as a means of controlling nephritic edema. A critical review[8] of the whole subject of the salt retention theory, however, seems to show that it is insufficiently supported. A considerable amount of experimental work is rather against it. Acute toxic nephritis in which there is no hydrops can be produced by various substances, and in these animals salt retention may take place. On the other hand, with uranium nitrate nephritis is produced in which edema is often present without there being any more salt retention than occurs in other types of toxic nephritis without edema. Recent careful clinical studies of Bittorf[9] and of Blooker[10] have failed to show any close relation between salt retention and edema. Renal cases without edema may exhibit a marked decrease in power to excrete ingested salt.[11] There is then undoubtedly a growing skepticism toward salt retention as a primal cause of nephritic edema, though in many cases it may be a contributing factor, and the withholding of salt from the food may be therapeutically effective. Many failures from this form of treatment, however, show its limited applicability.

On the other hand, there is increasing evidence to show that peripheral vascular lesions play a large rôle in the production of edema. This is not a new theory, but was advanced in 1877 by Cohnheim and Lichtheim[12] and more recently has been supported by Senator. It presupposes the presence in the circulating blood of some toxic substance capable of injuring the vessel wall. Some evidence of the existence of such a toxic substance is found in the experiments of Heineke,[13] Meyerstein[14] and Blanck.[15] These experiments were as follows: It is known that subcutaneous injections of uranium nitrate in rabbits will produce a toxic nephritis usually with edema, whereas other substances may be used to produce nephritic changes without any associated edema. Now if blood serum obtained from rabbits of the first group be injected into rabbits of the second group, edema appears, whereas normal rabbit serum produces no such result. Experiments of this kind are not constant in their results, but at least they are very suggestive of the importance of the rôle of circulating toxic substances in producing nephritic edema.

Pearce[16] has recently added further evidence in favor of the rôle of peripheral vascular lesions in the production of edema by a group of experiments in which he used known renal irritants and substances which are known to produce degenerative changes in the blood-vessels. Snake venom is such a vascular poison, and when given in association with a renal irritant edema results in a considerable proportion of the animals, particularly when moderately increased amounts of water are given by mouth, whereas the same treatment without the use of the vascular poison rarely results in edema. The functional studies of Schlayer, Hedinger and Takayasu[17] show that there is a close relation between the functional renal vascular disturbance and the edema.

Further evidence in support of the part played by vascular lesions in the production of nephritic edema is given by the results of my own histologic studies,[18] in which, in an examination of the kidneys of rabbits after the use of various renal irritants, I have found quite constantly associated with uranium nitrate lesions a change in the walls of the vessels of the glomerular tuft, consisting of the appearance in them of numerous hyaline droplets demonstrable by special staining methods. This vascular lesion was not found in kidneys of animals receiving substances other than uranium nitrate, and, as the uranium nitrate is the substance which produces in rabbits edema much more constantly than any other substance, it may be inferred that there is some relation between this anatomic lesion and the occurrence of the edema.

It cannot be claimed that the evidence is complete, but so far as the results of experimental work go it is very strongly suggested that the edema in nephritis results from injury to the peripheral vessels associated with changes within the kidney, probably in large part vascular also. Accepting this evidence, it is not surprising that there is no strict correspondence between the occurrence of edema in man and a definite type of anatomic lesion in the kidney. It is conceivable that various anatomic lesions under certain circumstances might lead to the production of functional disturbances in the kidney resulting in the retention or formation of toxic substances, which would injure the vascular ap-

7. Widal: La cure de déchloruration, Bull. et mém. Soc. méd. d. hôp. de Paris, 1903, xx, 990.
Widal, Froin and Digne: La chloruration et la régime dé chloruré chez les cardiaques, Soc. méd. d. hôp. de Paris, 1903, xx, 1208.
Widal and Javal: La cure de déchloruration; son action à certaines périodes de la néphrite épithéliale, Bull. et mém. Soc. méd. d. hôp., 1903, xx, 733.
Widal and Lemierre: Pathogénie de certains œdèmes brightiques: action du chlorure de sodium ingéré, Bull. et mém. Soc. méd. d. hôp., 1903, xx, 678, 785.
Widal and Others: Les régimes déchlorurés, Eighth French Cong. Int. med., Liege, Sept. 25-27, 1905, Sem. méd., 1905, xxv, 469.

8. Georgopulos: Experimentelle Beiträge zur Frage des Nierenwassersucht, Ztschr. f. klin. Med., 1906, xl, 411, and other similar papers.

9. Bittorf: Zur Pathologie des Wasserund Salzstoffwechsels, Deutsch. Arch. f. klin. Med., 1908, xciv, 84.

10. Blooker: Ueber den Einfluss der Kochsalzzufuhr auf die nephritischen Oedeme, Deutsch. Arch. f. klin. Med., 1909, xcvi, 80.

11. Ambard and Beaujard: La rétention chlorurée sèche, Semaine méd., 1905, xxv, 133; and other observers.

12. Cohnheim and Lichtheim: Ueber Hydrämie und hydrämische Oedeme, Virchows Arch. f. path. Anat., 1877, lxix, 106.

13. Heineke: Diskussion, Verhandl. d. deutsch. path. Gesellsch., 1905, ix, 107.

14. Heineke und Meyerstein: Experimentelle Untersuchungen über den Hydrops bei Nierenkrankheiten, Deutsch. Arch. f. klin. Med., 1907, xc, 101.

15. Blanck: Experimentelle Beiträge zur Pathogenese der Nierenwassersucht, Ztschr. f. klin. Med., 1906, lx, 472.

16. Pearce: The Theory of Chemical Correlation as Applied to the Pathology of the Kidney, Arch. Int. Med., 1908, ii, 77; and unpublished experiments reported at the meeting of the American Association of Pathologists and Bacteriologists, held in Boston, April, 9 and 10, 1909.

17. Schlayer, Hedinger and Takayasu: Ueber nephritische Oedeme, Deutsch. Arch. f. klin. Med., 1907, xci, 59.

18. Christian: A Glomerular Lesion of Experimental Nephritis, Boston Med. and Surg. Jour., 1908, clix, 8.

paratus and lead to edema formation, or it is possible that the same toxic substance which produces the renal lesion also is the cause of the vascular lesion. Much more experimental work, however, is necessary finally to determine the cause of edema.

HYPERTENSION AND ASSOCIATED CARDIAC HYPERTROPHY

Chronic nephritis is generally recognized as one of the common causes of high blood-pressure and associated cardiac hypertrophy, and a number of theories have been advanced in explanation of this condition. Some of these have been submitted to experimental test. Pässler and Heineke[19] have found that there is an increased blood-pressure and cardiac hypertrophy following the removal of considerable portions of the kidney substance, though these results were not constant. Janeway[20] has obtained similar results, though it is not very clear in just what way the blood-pressure is raised. Another group of observers have believed that the internal secretion of the kidney was a factor in raising the blood-pressure, and adduced in favor of this the fact that injections of extracts of kidney produced a rise in blood-pressure. A critical review of this work has been made by Pearce[16, 21] with additional experiments of his own, and he finds that results are very inconstant, and that the extract of the kidney of one animal may act in just the opposite way to the extract of the kidney of another species; consequently it is not believed that internal secretion in this sense can play very much part in producing hypertension. In the blood serum of animals receiving doses of certain substances that produce renal change there may be particular substances which have a pressor action. However, this type of work experimentally so far has been confined to acute conditions, though in man suffering from chronic nephritis numerous reports have been made indicating that there are substances in the circulating blood capable of acting to raise blood-pressure, but here again more recent reports give conflicting results, and probably not a very great amount of importance can be attached at the present time to these as factors in causing hypertension.

In a certain number of experiments in which the successful production of chronic renal lesions[22] has been attained, there is evidence of cardiac hypertrophy, and further studies along this line may yield results of importance. Since at the present time we have several experimental ways of producing cardiac hypertrophy, it may be possible to unravel the cause of this condition in nephritis. As shown by Fleisher and Loeb,[23] spartein and adrenalin chlorid will lead to the production of myocarditis with cardiac hypertrophy, and a moderate number of experiments in our laboratory have shown that the myocardial lesion in this condition as well as the findings in the kidney are quite different from those in a few animals where a type of chronic experimental nephritis has resulted from repeated injections of uranium nitrate, and in neither one of these groups of animals do we find the type of vascular lesion that Klotz[24] has obtained in Montreal by his method of increasing intravascular tension by inverting rabbits, from which procedure a marked degree of arterial change with dilatation of vessels is developed in the arteries of the anterior half of the body, associated with cardiac hypertrophy. Since these various experiments suggest that we can experimentally control the production of cardiac hypertrophy and obtain the result by producing chronic renal lesions, chronic myocardial lesions and chronic vascular lesions, it may be possible by such studies to arrive at the causal factor chiefly acting in any one of these types.

CAUSE AND CURE

As yet too little work has been done for the studies in experimental nephritis to throw much light on the etiology and treatment of nephritis. It is in the chronic nephritis that least is known about cause and cure. Experimental results in the production of chronic nephritis have been inconstant, and by nature such experiments are difficult. The repeated injection of various irritants has resulted in a certain number of cases in the production of lesions fairly analogous to the chronic renal lesions that we find in man. In animals, however, the remarkable recuperative power of the kidney makes the production of chronic lesions very difficult. Still, so far as results have been obtained, they suggest that in many cases chronic lesions in man result from continued action of small amounts of toxic substances, but throw no light on the cause of the appearance of these substances. Lead salts are about the only substances used experimentally which could in any possible way be similarly active in man, and it is not conceivable that lead-poisoning is a factor in the production of many cases of chronic nephritis. Some experiments seem to show that a single very extensive degenerative process in the kidney may result in the production of chronic lesions; and it may be that a few cases in man result in this way, just as at present it is believed that certain cases of cirrhosis of the liver are the result of some single acute degenerative process. Very little light so far has been thrown on the etiology of nephritis by experimental methods, however, and no assistance in the cure and prevention has been given.

It is evident from this review of experimental nephritis that the work has been just begun. It is being carried on at the present time in many laboratories, and we should take courage in the belief that from these experiments much of direct clinical value will come, and that by it our knowledge of nephritis in man will eventually be considerably widened.

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19. Pässler und Heineke: Versuche zur Pathologie des Morbus Brightii, Verhandl. d. deutsch. path. Gesellsch., 1905, ix, 99.
20. Janeway: Unpublished experiments reported at the Meeting of the American Society for the Advancement of Clinical Investigation, held in Washington, May 10, 1909.
21. Pearce: An Experimental Study of the Influence of Kidney Extracts and of the Serum of Animals with Renal Lesions on the Blood-Pressure, Jour. Exper. Med., 1909, xi, 430.
22. Christian: Unpublished and incompleted experiments made in the Laboratory of the Department of the Theory and Practice of Physic at Harvard Medical School.
23. Fleisher and Loeb: Experimental Myocarditis, Arch. Int. Med., 1909, iii, 78.
24. Klotz: Experimentelle Arbeiten; Arteriosklerose, Centralbl. f. allg. Path. u. path. Anat., 1908, xix, 535.

Acute Cerebral Tremor in Young Children.—J. Zappert contributes an article on this subject in the *Monatsschrift für Kinderheilkunde*, viii, 133, 1909, reporting four cases personally observed, and tabulating fourteen others from the literature, all in infants less than 2 years old. His conclusions are that some anatomic lesion must be assumed in every such case, and that the idea of a toxic neurosis must be given up, at least so far as children are concerned. It is evident that transient changes in the meninges and cortex are a frequent accompaniment of infectious processes in children. As a rule they subside without inducing any clinical manifestations, or merely a mild general affection whose cerebral origin it is difficult to determine. This last category includes the cases of tremor under discussion. It is possible that autotoxins or infections may induce changes in certain brain centers, entailing the tremor. The latter is thus the expression of a toxic-infectious injury of the brain. Complete recovery was observed in all but two of the cases cited, the children in these two cases growing up imbeciles

MANAGEMENT OF UREMIA *

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For the purposes of this discussion, uremia may be tentatively defined as an autointoxication, which affects mainly the nervous system, and occurs in connection with renal insufficiency. It is due to the retention in the blood, tissue lymph and cells of the body of certain indeterminate, but specific, products of perverted, or normal, tissue metabolism, which are not excreted by the inadequate kidneys, or are not taken up by the lymphatic radicles, or are not neutralized or destroyed by the lymphatic glands or other protective organs.

We are lacking in knowledge regarding many of those fundamental facts of anatomy, physiology and pathology which are necessary for formulating a specific treatment for uremia; therefore, that which is offered should be considered as being based on a fairly rational empiricism, directed in the main toward the prevention and relief of prominent symptoms and known conditions.

In order that my remarks may not lack in directness and force by a discursive rambling over too broad a field I shall confine myself to a consideration of some of the problems in the management of uremia, with particular reference to the disturbances of the intravascular and extravascular circulation, in that protean malady technically known as chronic interstitial nephritis, as they have been encountered in my personal experience.

Fairness impels me to say that the exigencies of this occasion renders it impossible to give consideration to the many interesting features connected with the treatment of such strikingly important symptoms as convulsions, coma, Cheyne-Stokes respiration, mental aberration, etc.

On making a diagnosis of chronic interstitial nephritis the physician should make earnest efforts toward preventing the development or recurrence of recognizable uremia. The patient should be informed of the nature of the disease, and given a tactful prognosis and directions for its management as to diet and general regimen. The diet should be individualized and specifically prescribed; it should be so arranged, along the ordinary established lines, as to maintain nutritive equilibrium at the highest possible level, with the smallest total amount of proteid and carbohydrate foods. The total liquids should be so adjusted as to carry off the largest amount of excrementitious materials, as may be determined from time to time. The regimen should consider such important matters as residence, clothing, occupation, exercises, environment, etc. The amount and character of the physical exercises must be adjusted to meet varying capacity and requirements. Extraordinary care should be taken to avoid infectious diseases. The patient should be seen with such frequency as to allow the physician to keep closely in touch with his ailments. At these times modern methods of examination should be the rule. The patient should consult his physician promptly on the advent of any one of a series of significant symptoms, a list of which he should have. The physician should be intelligent, alert, assiduous and tactful; in every legitimate manner he should endeavor to obtain and retain the confidence of his patient, solely because it is to the latter's best interests.

Mention is frequently made of the sudden and unexpected onset of uremic manifestations; but we may well inquire whether this is often really without warning. Looking back over my experience, I recall several instances in which an uremic attack was ushered in with a celerity which was, at the time, truly surprising; yet when these cases are reviewed in retrospect none was without ample symptomatic warning. Certain it is that when excessively high blood-pressure, various dyspneas, edema, transient blindness, retinitis and retinal detachments, dizziness, headaches, neurites, drowsiness, impairment of the sense of location, mental perversions, tremor and cramps, aphasia and fleeting paralyses, cardiac enlargement and insufficiency, vomiting and diarrhea, cutaneous affections, etc., thrust themselves, singly or in groups, obtrusively before us, we should appreciate their diagnostic significance.

As is well known, the blood-pressure is abnormally high in these cases. Perhaps the dietetic and other measures instituted may limit, or possibly prevent, further advances along this line. Rarely, as time passes, the vasomotor nerves so accommodate themselves to the unknown irritant that the circulatory balance is adjusted in such manner that the blood-pressure remains stationary, or even declines somewhat; and this without notable cardiovascular failure. The exalted cardiovascular tension may be somewhat reduced by various medicaments, as, e. g., hippurate of ammonia, lichenin, the nitrites, the iodids, thyroid extract, etc. The clinician must decide whether any measures should be taken to bring about this result; and, if so, under what circumstances, and by what means. Ordinarily the high tension is conservative and should not be interfered with. In some instances, however, there occurs a rapid rise of pressure above the patient's usual high level, with increase of the hazards accompanying this abnormal state. These sudden exaltations of tension are often followed by failure of the delicately balanced cardiovascular-areolar tissue supporting tension. Under these circumstances, with the patient in great distress, rupture of degenerate vessels threatening, and a practical certainty that circulatory incompetency will soon occur, I am of the opinion that the patient's best interests are served by anticipating the near-inevitable by artificially lowering the excessive pressure—if this can be effected. If the condition is urgent a free blood-letting should be done; otherwise one of the slower methods may be chosen. In this manner the patient is given the greatest relief, and imminent danger averted; but the underlying conditions remain, and the physician should not be lulled into a sense of security, as the patient is likely to be, by the ease and comfort which is now his. Experience proves that, once lost, the complicated circulatory balance is seldom fully and permanently restored. Not infrequently circulatory insufficiency follows an acute infection, or other depressing influences, without the patient experiencing the extreme tension referred to. In such cases the hypertrophied heart dilates, valvular incompetence may be added and the well-known results of cardiac failure appear, possibly to an overshadowing degree. In this connection especial consideration should be accorded to the overfilling of the lymph spaces, and the subsequent failure of the areolar tissue-lymph tension, with edema as the final result.

The rôle of edema in the genesis of uremia is most important, although it will be practicable, in this paper, to note only some of the most significant features. Thus, in many cases, without gross evidences of edema, the intercellular and areolar tissue spaces become distended with lymph to a degree which induces a high tension.

* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

V 53
1909

The patient is plump; the soft parts are resistant to pressure, but without pitting; the integrity of the areolar tissues as a series of restraining membranes is maintained; anasarca is not present, but is imminent; the condition might be termed occult edema. Under these circumstances the lymph circulation is impeded, and toxic waste products and specific toxins begin to accumulate, with uremia probably in its incipiency. Edema in chronic interstitial nephritis is usually of the incipient or occult variety, and infrequently does it become obtrusive; general anasarca is rare in uncomplicated cases; when dropsy becomes a prominent feature it is due to cardiac incompetency, and partakes of the general character of cardiac dropsies, with one important and fundamental exception, i. e., that the patient is more or less uremic. The bearing of this distinction on our conception of the essential nature of uremia should be given full weight. Thus it follows, logically, that, inasmuch as the physical conditions are alike, the uremia of the cardionephritic dropsical patient is due to vital, and not to mere mechanical disturbances. It is significant that, in my limited experience, the serum obtained from the liquid bowel movements of such nephritic patients has been much more heavily laden with chlorids, and often with sulphates also, than in others with pure cardiac dropsies.

Edema interferes greatly with the composition of the blood and the extravascular lymph, and with cellular nutrition. The capillaries and lymphatic radicles are compressed, with interference with their functions; the tissue lymph becomes stagnant and laden with specific toxins and tissue-waste materials; the extravascular circulation is short-circuited. There is an extraordinary lack of easily obtainable information concerning the physiology and pathology of the circulation of the tissue lymph. For our purposes let it be assumed that the nutritive elements of the blood, proteid and other, in aqueous solution, are transfused through the capillary walls by selective vital cellular action, assisted by simpler mechanical forces; that the extravascular lymph, carrying both nutritive and waste materials, circulates, vitally and mechanically, in the intercellular channels and areolar tissue storage spaces, and by a selective excretory function of the cells of the lymphatic radicles, finds its way into the ducts and thence through the glandular protective filters into the blood current.

In my opinion, special consideration should be accorded the management of every degree of edema—occult as well as manifest—in nephritics. As the result of long-continued and fairly broad observation I commend the following plan of treatment, modified to meet varying and individual conditions:

During the first day the diet should consist of thin gruels, cream and water, vegetable soups, tea, coffee, cocoa, water and carbonated waters. From these there should be omitted the gruels on the second, and soups on the third day; during the fourth and fifth days very little should be taken; on the sixth day the soups should be replaced, and on the seventh day the gruels; later the ordinary careful dietary of the nephritic should be gradually resumed. Every night of the first three days the patient takes 10 grains of mercurial mass, in two recently made pills of 5 grains each, followed by an efficient sodium or magnesium saline in the morning. Beginning on the fourth morning, after free action of the saline, there is given 1/30 grain pure elaterin hourly for three doses; 1/24 grain every two hours for three doses; finally 1/18 grain every three hours until ten or twelve copious watery bowel movements have been induced. During the last series of doses the intervals may well be p. r. n., or as specially directed. Subsequent to the discontinuance of the medicine there will be several more of the liquid evacuations. The elaterin must be pure, and it is preferably given in powder, with sugar of milk and finely powdered ammoniated glycyrrhizin. During the time the elaterin is being given the patient should remain in bed, using the pan. He should be informed of the abdominal distress, nausea and vomiting which the drug sometimes induces. Without giving reasons for the opinion I am quite sure that, if satisfactory results are to be secured, it will be well to follow closely the spirit of these suggestions in regard to diet, medicine and general regimen as detailed.

The treatment here recommended will usually drain from the bowels a considerable amount of serum, varying in total volume from 4 to 15, or more, pints. The serum is usually acid; straw-colored; of from 1005 to 1030 specific gravity; free from albumin; laden with urea to 0.01 per cent. to 0.2 per cent, phosphates to small percentage, chlorids to 3 per cent. to 25 per cent. and sulphates to 1 per cent. to 10 per cent., by volume. The odor is sometimes peculiarly offensive. There is no doubt, in my mind, as to the fact that the serum passes into the intestine by secretory action.

During the period of alvine drain renal activity is reduced; subsequently the flow of urine usually becomes very free, often continuing so for many days, even until the cardiovascular-sanguineous and lymphatic-tissue lymph balance of the circulation has been restored. In the most successful cases the urine is not only increased in quantity, but in urea content as well—rising in one instance to the enormous output of 994 grains during a single twenty-four-hour period. In some unsatisfactory cases—rare in my experience—the flow of urine is not augmented; the overstretched areolar tissues fail to regain their resiliency; the current of tissue lymph toward the lymphatics is not maintained—possibly it had not been attained; edema continues or increases.

This initial part of the treatment, in typically successful cases, is followed by subsidence of the objective and subjective symptoms—uremic as well as circulatory—with such relief to the patient that it may be fairly described as profound. Much of the improvement appears promptly; more is noticeable during the following two weeks; the full measure of benefit, however, is not obtained until about the end of six weeks, and a surprising proportion during the last few days of this period. The improvement usually continues for several months; it may be of short duration; occasionally the period is remarkably extended.

In whatever manner the relief may have been induced it is probable that it may be made more complete and greatly prolonged by close medical supervision and persistently careful management. For this reason I have, for many years, advised these patients to take daily systematic, well-considered and individualized, active exercises of such character as to bring into play as many as possible of the muscles of the body. Whenever necessary this is supplemented by general and vigorous massage. The object of these measures is to facilitate, forcibly, cellular activity. The results have been so satisfactory that I commend these methods for consideration.

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The Winning Hand.—There is no place in this world for the man who is afraid of work. The place at the top of the ladder is for the fellow who climbs. The gloved hand is not the hand for the scepter. God makes world-rulers and world-builders of the toilers, the plodders.—*United Presbyterian.*

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. CHRISTIAN, MUSSER, VAUGHAN AND WELLS

DR. D. L. EDSALL, Philadelphia: It is very clear that a great many erroneous conclusions have been reached in the vast amount of literature that has accumulated on this question. There is no constant relation between the retention of chlorids and edema and the severity of the nephritis. There are, then, various reasons why the theories concerning the extremely intimate relation between edema and the chlorid disturbances are not established. There are also errors in regard to the conception of the cause of alterations in chlorid excretion, for reduction may, on the one hand, clearly be due to a reduction of the capacity of the kidneys to excrete chlorids, while in some instances it is certainly due to alterations in processes going on elsewhere than in the kidneys; and at times the latter are probably definitely conservative processes, designed to relieve the kidney of its work of excretion, and the edema itself becomes a conservative process, partly to relieve the kidneys and often largely to relieve the circulation. A reduction in the amount of sodium chlorid ingested, aside from any influence on edema, helps largely to reduce the work that the kidneys do.

I saw this fact strikingly illustrated some years ago in some experimental observations I made in regard to the possible value of studying the excretion of definite doses of sodium chlorid as a means of testing the functional capacity of the kidneys. I gave sodium chlorid to various persons who appeared to have about the same degree of damage of the kidneys, some of them having actual nephritis and some of them simply arteriosclerotic changes. I several times met with observations which made me give up the studies because it was clear that there was danger attached to such a test; that is to say, I found in several instances that an amount of sodium chlorid no more than equal to what is taken in an ordinary diet, produced evident and sometimes marked increase in the incapacity of the kidneys to carry out not only the excretion of sodium chlorid, but excretion in general, of water as well as of the solids, was largely cut down. It is clear then that an amount of sodium chlorid not more than equal to what is contained in an ordinary daily diet may cause decided failure of function on the part of the kidney even in cases in which the kidney appears to be doing fairly good work. Hence, whatever we may think concerning the theories of the relation of salt to the symptoms of nephritis it is certainly a valuable procedure to limit the amount of table salt in the diet. This same point has been elicited in another way recently in some work that Dr. Lavenson has been doing in my laboratory in regard to the influence of certain potassium salts on the excretion of chlorids in the urine, basing this work on the statement of Bunge, which has not been generally accepted, however, that potassium salts cause a decided increase in the excretion of chlorids. There seems to be little doubt that Bunge is right about this, for Dr. Lavenson found a decided increase in chlorids after a variety of potassium salts. The nitrate which has been considered to have an especial action did not appear to be particularly active as compared to the others, the effect exerted being apparently in direct relation simply to the amount of potassium given. Dr. Lavenson naturally tested the suggestion that at once comes from this that potassium salts might be a good method of overcoming chlorid retention. The result proved to be merely an instance of the fact that when we attempt to do what superficially appears to be right, we may do harm. The retention of chlorids appeared to be in some cases definitely a protective thing, and urging the kidneys to excrete more chlorids simply did harm, the general excretion being reduced, although the chlorids might increase or decrease—actual toxic symptoms developing in one case in mild form. There is one more point that I would lay stress on: That is, we should approach all these conditions with the idea that they are largely dependent on intoxication and the best way to relieve intoxication is to start by relieving the amount of work demanded of the eliminative organs as far as we can. Satisfactory results can sometimes be obtained in these cases by placing the patients on actual starvation for a brief period, sometimes a day and sometimes several days. This gives an opportunity for improvement in the digestion and the metabolic and excretory functions through giving them a partial rest. It is of course necessary when carrying on starvation for this or any other purpose to be very watchful of the effects, as it is a serious procedure, but in these cases it is necessary to undertake serious measures, and the reduction of the diet to nothing but water or to say a pint of skim milk in a day, to which water is added, will sometimes accomplish very comforting results, which are not obtained when an ordinary full milk diet is used.

DR. DELANCEY ROCHESTER, Buffalo, N. Y.: There are two practical points I should like to speak about. First, it strikes me that salt-free diet is valuable in those cases in which there is much edema, because of the fact that in the fluid and in the tissues of the body there is a considerable amount of sodium chlorid which will supply its needs. Dr. Vaughan has shown that the tissues of the body need chlorids to a considerable extent; if we withhold them from the food, Nature has provided a source of supply in the serum of the edematous fluid, which may be called on when they are in demand. I should think that if the fluid ingested be restricted, fluids could be obtained from this same source. Second, in the management of uremic attacks I wish to commend Dr. Wells' procedure, but in addition, there is one thing used in these cases which I find of special value—the action of the skin as an eliminative organ. I have found it very useful to administer, ten or fifteen minutes before giving the hot water bath or hot pack, minute doses of pilocarpin, 2 or 3 mg., it aids greatly in producing profuse sweating in these patients. Elaterium has also been recommended. I have used it in smaller doses and continuously—perhaps 8 mg. twice a day. It does not produce nausea, but drains the bowels and is of great advantage in these cases.

DR. JAMES TYSON, Philadelphia: Dr. Christian's paper was one which has so thoroughly covered the lines with which I am practically familiar that I hesitate to say anything on the subject or on what he has brought out. I was struck, however, with the apparent differences of result in experimental nephritis as compared with the symptoms that are observed clinically. I was also impressed by what was said as to the sorts of casts which first make their appearance in producing experimental nephritis. In actual experience the cast that appears first is usually the hyaline cast, and not the granular cast. This is seen in the passive congestion due to cardiac disease which permits a leakage. As the seriousness of the condition grows the granular cast appears, becoming more and more granular, *pari passu*, with the destruction of the cells. What Dr. Christian has quoted as experimental facts are probably correct, but they do not agree with my experiences in the study of the urine in actual cases. With regard to the treatment of high tension, Dr. Musser has struck the keynote, but not enough stress was laid on the impropriety of treating high tension *per se*. To strike at the root of the evil, one must remove the cause of the high tension. In this respect, Dr. Edsall's statements on the matter of starvation are sustained by my experience. Many years ago I taught the treatment of nephritis by small quantities of milk, or as little food as possible. This was not for the purpose of relieving the uremic symptoms any more than to remove the edema and the vascular symptoms of an unfavorable kind.

DR. JOHN A. LICHTY, Pittsburg, Pa.: When a slight cerebral hemorrhage occurs in these cases, the blood-pressure immediately drops and remains down a longer time than one would expect it to do when rest is ordered. There is no trouble at all in keeping the blood-pressure, which was 265, down at 195 or 210, while the patient is leading a rather active life. These patients are of course thoroughly frightened and are willing to follow a regimen now of rest, diet, etc. But the drop in the blood-pressure is very sudden and will remain lower for a longer time than one would expect.

I should like to refer to two patients with chronic appendicitis whom I have had operated on during the past year in which there was a history of nephritis of some years' standing; I of course had to consider the safety of an anesthetic. Ether narcosis produced absolutely no disturbance of the urinary secretion. The first patient was 24 years old and had

V 53
1909

had scarlet fever when 3 years old, and was afterward sent to Dr. Tyson of Philadelphia and Dr. Janeway of New York, because of the existing nephritis. Albumin and casts remained in the urine year after year. It was decided that an interval operation for appendicitis should be done. Very great care was taken in giving the ether, and there followed no disturbances in the urinary secretion at all. The second patient, twelve years ago, had had diphtheria and a general anasarca afterward. Dr. Osler saw this patient and pronounced the condition a very severe case of parenchymatous nephritis. This patient also had to be operated on for appendicitis. The ether narcosis had no evil effect on the kidney secretions.

A third patient, however, with no signs of nephritis, did quite differently. This patient had normal urine, and was operated on under ether narcosis. After the operation there appeared an acidosis, casts, albumin, etc., and death due to anuria occurred within twenty-four or thirty-six hours after the operation. With such diverse experiences it seems to me that after all our knowledge of this condition, so far as it applies to the individual patient, is not of very great practical value.

DR. JOHN N. UPSHUR, Richmond, Va.: I want to protest against the administration of morphin or any opiate as a temporary palliative in the treatment of uremia;; it certainly does interfere with secretion. The thing we should do in cases of grave uremia is to direct our work as much as possible along lines of safety; therefore, if we can give rest to the kidneys and at the same time get elimination we can accomplish much more and do much better than if we get our head in the bushes like the ostrich, by giving morphin, and think we are accomplishing something.

If we can give rest to the kidneys by placing the patient in a hot pack and by hydragogues cause elimination through the bowels, we will find that we not only give relief from the grave uremic symptoms, but through the elimination through the skin and bowels at the same time we can reduce the amount of tension in the blood vessels. The error we are liable to fall into in patients who may and do have renal trouble, is that we do not make sufficient analyses of the urine and do not get the careful knowledge of what is going on by such a systematic urinary analysis. We are all apt to err in this direction. Even in those cases in which there is no suspicion of renal lesions we should keep in touch with the condition of the kidneys by a careful observation through urinary analyses; this should be made a routine matter.

DR. WALTER L. BIERRING, Iowa City: It seems to me that sufficient emphasis has not been given in this discussion to the special reference made by the last speaker in the symposium on the relation of circulatory disturbances to uremia. Whatever conception we may have as to the nature of uremia I am sure we recognize that the appearance of its symptoms is largely dependent on the maintenance of the cardiovascular balance, and the real problem of treatment at the present time is to anticipate and control, so far as possible, the cardiovascular disturbances.

DR. HEINRICH STERN, New York: Dr. Christian mentioned in parenthesis that the excretion of albumin via the kidneys can only ensue on the basis of a diseased condition of the latter. Evidently he has not consulted some of the latest literature on this subject.

It is not a diseased kidney which permits the transudation of the albumin, but a strong and healthy kidney. I should say that the healthy kidney is always permeable for the albumin molecule, but that the blood which attaches itself to the albumin and then deposits it in the tissues whence it is again taken up by the return circulation in the form of urea, does not permit the escape of the blood proteids prior to their intrasystemic disintegration. While, therefore, albuminuria is a pathologic occurrence, its causative factors are not situated in the kidneys but are distinctly anterenal.

Although Dr. Wells has not brought out anything substantially new, he has developed some new view-points and interpretations. I know that he has not especially entered into a clinical subdivision of the uremic states. I think, however, that it is impossible to apply rational treatment unless one knows the basis on which the uremia has developed. For instance, in the large white kidney, the passage of urine is seriously interfered with; in contracted kidney, on the other hand, there is nothing to prevent its excretion. The sera of uremia on the basis of chronic parenchymatous nephritis are differently constituted in some major points from those of uremia due to interstitial nephritis. In parenchymatous nephritis there is a tendency to convulsive phenomena, in interstitial nephritis to a comatose state. This important divergency is explained by the different constitution and physico electric behavior of the respective sera. I have shown that there is no chemico-toxicity which stands at the foundation of the uremic phenomenon, that there is not a single substance, known to us, excreted by the urine or the other excrements, which is apt to bring about either the convulsive or the comatose phenomena. By retention nitrogen in the blood is understood all the nitrogen remaining in the liquid after complete removal of the albuminous substances. The average amount of retention nitrogen in 100 c.c. of normal blood serum is between 25 and 30 mgs.; in chronic parenchymatous nephritis without uremia the average amount is 40 mgs. and in the presence of uremia about 62 mgs. in 100 c.c. blood serum; in chronic interstitial nephritis without uremia an average amount of 82 mgs., and when uremia prevails 130 mgs. retention nitrogen were found. These figures show that in the blood serum of chronic parenchymatous nephritis about 35 per cent. more retention nitrogen is contained than in the normal liquid; that in interstitial nephritis the retention nitrogen is present in twice the quantity as in the parenchymatous variety, and that the retention nitrogen is augmented in the uremic states consequential to the nephritic conditions. The enormous amounts of retention nitrogen in the serum of chronic interstitial nephritis undoubtedly stands in causative connection with the natural termination of the disease-uremia. In parenchymatous nephritis uremia is not only a much rarer but also a less grave complication. This I have explained by the fact of the relatively small amount of retention nitrogen. The inconsistency of pursuing the same plan of treatment throughout in the various cases of uremia which are so unlike in their manifestations and have risen from such distinctly discrepant substrata is obvious. I think it is unwise to speak of the management of uremia, when this uremia may mean that we may have at least two entirely different states to deal with. One cannot be treated like the other.

Some one said that morphin was contraindicated in uremia. This has to be taken with a grain of salt. In the uremia of chronic interstitial nephritis, which is characterized in almost every instance by a condition of tranquil coma, very rarely exhibiting convulsive phenomena, morphin is certainly contraindicated, because it also causes coma and may thus aggravate the existing comatose condition and hasten a fatal issue. On the other hand, in the uremia of chronic parenchymatous nephritis, which is characterized by convulsive seizures, morphin may have a distinct value when chloroform has proved of no avail. Its efficacy in controlling the convulsions may be due to the retardation of the metabolic processes ensuing from its administration, thereby preventing further accumulation in the blood of catabolic substances, and to its augmentation of vascular tonicity.

DR. BOARDMAN REED, Los Angeles, Cal.: I wish to confirm the observations of Dr. Tyson of Philadelphia and Dr. Smith of Baltimore regarding the value of therapeutic fasting or starvation, not only in fevers but in other conditions. We know that in gastric ulcer and, in my experience, in hyperchlorhydria, the good results which follow starvation for a few days when the patients are put on a light diet, particularly in patients with high tension. In treating patients with arteriosclerosis and hypertension splendid results follow placing them on a low diet, or even actual fasting for three, four or five days. In cases of high tension it is perfectly safe, particularly if the pulse be watched carefully to see that the tension does not get too low. Only recently we have come to appreciate what can be done by fasting for a few days, and particularly its influence on conditions in the gastrointestinal tract. It seems to be the only way so far discovered of getting rid of the bacterial cause of the trouble in certain cases.

DR. HUGO A. FREUND, Detroit: I find that too little mention has been made of the value of observing hypertension systematically. This one thing as suggested by Dr. Bierring should be carefully watched in each case we are treating. It is very essential to note the condition of the cardiovascular system in connection with the urinary findings. I do not believe, however, in the desultory examination of the blood-pressure with the sphygmomanometer, taking the blood-pressure one morning, then the next, and so on, but I do urge its systematic use. A competent nurse or assistant can be trained to take two-hourly readings. These, when charted, give us most valuable curves that aid in the immediate treatment and in the prevention of otherwise unavoidable accidents. In many cases an oncoming uremia is shown a long time before the patient is seized with convulsions or other disturbances make their appearance.

DR. CHARLES F. HOOVER, Cleveland: It has not been clearly stated whether we are dealing with a cardiovascular problem or an impairment in renal elimination or uremia. There seems to be a lack of clearness on the part of the speakers as to what phase of nephritis these therapeutic efforts have been directed.

DR. HENRY A. CHRISTIAN, Boston: In the paper I simply discussed the acute toxic nephritides. If an animal be given a small dose of these irritating substances and then examine the urine you will throughout the course of the observation find in the urine simple hyaline casts. It does not follow that those casts have been hyaline from the beginning of formation. It simply indicates that a considerable time has elapsed between what has been formed in the kidney and what appears in the urine. If certain cases of cardiovascular disease be observed, we all know that only hyaline casts will appear during the time of observation of this condition unless there is an acute exacerbation when the granular casts appear. Apparently from experimental work the following explanation will serve for these cases. The casts are formed in small quantities, and the formation takes place slowly because the irritant used is small in amount, or the irritant present in the human body is small in amount. The casts do not make their appearance in the urine for a considerable period of time. In the time elapsing between their formation in the kidney and their appearance in the urine they have become homogeneous and consequently hyaline. This condition can be repeated with ease in animals. There is no discrepancy between the clinical and the experimental findings. Two factors must be considered, the time relation of cast formation, and the time relation of cast excretion. It is the period between these two occurrences that determines whether the casts will be hyaline or granular. At the same time it must be acknowledged that there is always a chance for error in arguing from animal experimentation directly to man. So far as we are able to judge, the method of formation of casts in animals is probably the same as in man; but of this, however, we are not certain. It was my intention in the paper to adhere to the consideration of the title, "Experimental Nephritis," and no mention was made of various other types of edema and renal lesions because this was considered beyond the scope of the paper. Albuminuria without renal lesion, as referred to by Dr. Stern, has so far as I know, never been produced in animals, and anyhow is hardly a part of a symposium on nephritis.

DR. JOHN H. MUSSER, Philadelphia: We must remember that hypertension is a curative process; therefore, any attempts to remove it entirely, especially after degenerative lesions secondary to the process have arisen following the intoxication, will be and should be in vain. What we must do is to reduce such hypertension to the normal for that individual. I have made the same observations as has Dr. Lichty in regard to the fall in the blood-pressure and the persistence of that fall after an attack of apoplexy. In subsequent attacks the fall is very great, and it is probably due to the attack. Afterward the blood-pressure does not rise to the same point. In considering the treatment, I did not refer to the dietetic management so strongly as I should, especially in regard to the limitation of the amount of food taken and the proper selection of food. One must rely on the results of a study of the function of the stomach in determining the line of diet, plus the general broad principle of the limitation of the amount given. I want to refer to the use of two drugs. First, iron which is administered not only for the hypertension but for the degenerative lesions that accompany it. This remedy is of the greatest value. It is not only, it appears to me, a drug which supplies iron to the blood, but it also has some nutritional effect on the cellular structures. Undoubtedly iron does, as observed years ago, lower the blood-pressure when its use is prolonged. In cases of myocardial disease, and indeed I might say in cases of cardiac disease with dilatation, if I had to decide in an emergency of acute dilatation what remedy to use, I would prefer iron to digitalis. This agent, however, should be kept up for a long period of time. I should like to refer to opium as a remedy of great importance for the neurosis which attends this condition, either as a factor secondary to the intoxication or secondary to the hypertension. Small doses of opium or morphin give most satisfactory results in securing that equanimity which is so necessary; it aids in keeping down the stress and strain incident to the increased blood-pressure. Finally a word in regard to the use of mineral waters or the purgatives we select. Unless we are very circumspect in this matter we will find patients taking purgatives containing too much sodium chlorid and bring about renal inhibition. I recently saw a case in which a large amount of saline purgative was used when it was not indicated; the result was a progressive increase at that time of renal insufficiency and consequently dropsy. Stopping the salt was sufficient to bring about the renal activity and a subsequent lessening of the amount of dropsy.

DR. EDWARD F. WELLS, Chicago: It should have been noted that I limited my paper to the discussion of certain clearly outlined conditions, i. e., uremia as it appears in chronic interstitial nephritis, with special reference to the lack of balance of the circulation and especially the extravascular circulation and the tissue lymph. This was done for the reason that in the fifteen minutes at my disposal it was impossible to go into all the different varieties of uremia, and the prevention of its causes. In my paper I laid particular stress on one point, or one sentiment, namely: the patient should be nourished to the highest attainable level with the least possible amount of food; and this applies with particular force to the proteids and carbohydrates ingested. It is astonishing to those who have not given much attention to the matter how comparatively little food is required for this purpose. Patients can be nourished on two-thirds, one-half or even one-third of what they are accustomed to take and maintain their weight, retain their vigor and increase their sense of well-being; this I have demonstrated in several instances. The trend of my remarks is this: The oncoming of uremia is manifested clearly by shadows cast before. One of the most significant of these foreshadowings is an endemic state, or usually an occult edema, in which the intracellular spaces are distended with fluid, and to a high tension. Such patients may be deprived of the excess of extravascular liquid with the loss of from five to twenty, or more, pounds in weight in a few days. Certainly this total loss in weight is due wholly to the loss of liquid and not to that of fat or the solid tissues of the body. In the cases in which the edema is occult, more or less manifest, I believe this to be an extremely important matter. The extravascular fluids contain an abnormal amount of certain salts, markedly differing from the proportions ordinarily contained in the lymph; therefore, the extravascular circulation is either overlooked as a whole, or portions are short-circuited. This is demonstrable in anasarca in which the legs are edematous; if indigocarmin be injected in the leg, it may be a very long time before it appears in the urine, and hours before it is noticeable in the serum of the opposite leg, or the serum may be drained from the opposite leg without getting a trace of indigocarmin. It has been short-circuited. It is to this condition that I wished particularly to call attention, not only because of its importance, but because I believe that it is either not sufficiently recognized, or due attention has not been given to it. The method of drawing off the liquid through the intestines is one of the many measures for the reduction of the edema which may be adopted; but on the method employed will

depend its success or failure. If one gives elaterium he is sure to be uniformly dissatisfied with the results, but if he will follow the lines suggested definite results will be attained. With regard to occasional starvation, this, too, is a method which can be used, and is an essential feature of the method advised in the use of elaterium. The patient is practically starved; but he can live a long time without the ordinary foods. However, one may drive the nutritive portions of the blood out into the intracellular and lymph spaces; but stimulating the cellular secretory action in order to induce a return flow of the waste-laden and toxic lymph back into the general vascular circulation is not such a simple procedure. The serum obtained through the intestines by the use of elaterium is in the nature of a vicarious elimination, which is brought about by secretory action and not solely as the result of pressure. The fluid may be readily obtained clear by filtering, and is free of albumin; there may be a mere trace of it perhaps, but when such is the case it is accidental and due to the open spaces left by broken-down epithelium. The tissue lymph is albuminous and contains salts in a different proportion than is found in the serum drained off through the intestines.

OVARIOTOMY AND MYOMECTOMY EARLY IN PREGNANCY, WITH FULL-TERM DELIVERY*

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The relation of sterility and fibroids of the uterus has been widely discussed and two opinions defended by the opponents. One teaches the theory that the sterility is due to the growth in the uterus, while the other insists that the tumor is the cause of the sterility.

As the cause of tumor formation in the uterus is not known, the opinions expressed are but a speculation. One opinion is entitled to as much consideration as the other.

Fibroid tumors of the uterus are found in women under different modes of life; the married, the unmarried, the sterile as well as the fruitful are subject to this disease. These tumors are found in women who have suffered infection of the genital tract, and also in those who have never had an infection. They are found in the virtuous as well as in the morally lax, in the virgin as well as in the sexually promiscuous. In some cases the tumor appears early in life, in others later. The growths occur in women living in luxury as well as in their sisters of hard toil. They occur in women of all races, although the colored race is said to be more liable to these tumors.

It is not known to what extent the physiologic congestion occurring periodically in the genital organs during menstruation is responsible for these tumor formations, or if a responsibility can be put on this function at all.

In this connection there is a case on record by Sutton[1] which is of interest. In this case a tumor supposed to be a fibroid was present for ten years in the uterus of a childless woman, twice married, who had never menstruated or shown any evidence of physiologic ovulation.

Emmet,[2] who has studied the subject of disturbed menstruation in fibroids and their relation to sterility, expresses himself as follows:

Between the ages of thirty and forty years the unmarried woman is fully twice as subject to fibrous tumors as the sterile or the fruitful. I have already pointed out that this is one of the tributes which an unmarried woman pays for her celibacy. It seems as if it were the purpose of Nature that the uterus should undergo the changes dependent on pregnancy and lactation about once in three years throughout the child-bearing period, and that if the uterus is not physiologically occupied in child-bearing a fibroid will the more rapidly develop into a fibrous tumor as the woman advances in life. This will also be the case with the married woman who has taken means to prevent conception, as well as with her who has been sterile from some cause beyond her control, but to a less degree in the latter case. Finally, the woman who may have been fruitful in early life may have a tumor develop, but is less liable thereto from having once borne a child.

On the other hand, Haultain[3] holds that "sexual excitement in marriage favors the growths of fibroids; that fibroids tend to prevent child-bearing, and, further, that pregnancy in many cases, by promoting their growth, prevent conception in the future."

A fibroid tumor may lie dormant for a long time in the uterus of a sterile woman; she may then conceive, and with the conception the tumor grows and becomes an active factor in causing an abortion of premature labor later in the pregnancy.

A case of this kind came under observation last year.

CASE 1.—*History.*—Mrs. G., aged 35, had been married fifteen years. She had one child two years after marriage but had not conceived since. She had a small fibroid in the uterus, the existence of which she had known for many years. The tumor never produced any symptoms. Six months previous to my examination she stopped menstruating but did not think that she was pregnant. The amenorrhea extended over four months; then she began to flow moderately. At first she thought it was a menstrual period; the flow continuing over six weeks convinced her that something was wrong. She consulted her physician, who called a consultation. Under a light chloroform narcosis a large tumor complicating a pregnancy was made out. She was transferred to the hospital for observation, where a few days later she delivered herself of a five months' fetus. The placenta not coming away satisfactorily, she was narcotized, the placenta removed and the uterine cavity thoroughly explored. With the hand in the uterus a fibroid was palpable, which projected into the cavity of the uterus, undoubtdly causing the premature labor. It was hoped that with the subinvolution of the uterus the tumor would return to its previously quiescent state. Instead of that the patient kept on flowing.

Operation.—Seven weeks later, on account of severe metrorrhagia and anemia, the patient was operated on and a panhysterectomy performed. On opening the specimen it was found that the uterus had involuted perfectly but that the tumor extended clear through the uterine wall and projected into the cavity of the organ, causing the persistent metrorrhagia.

Here we have a dormant tumor awakening into activity by the conception, and by its rapid growth causing a premature labor and also bringing about symptoms that called for hysterectomy.

While there is a distinct relation between sterility and fibroids of the uterus, the underlying cause of this relation is not known. There are cases of pregnancy on record in uteri that apparently were hopelessly destroyed by myomatous tumors. Under what conditions does pregnancy occur in organs so overwhelmingly damaged by fibroids?

A most interesting case of this kind was reported by Dr. I. S. Stone[4] at a meeting of the Washington Obstetrical Society. The tumor consisted of a large mass of

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* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

1. Sutton: In Allbutt and Playfair's System of Gynecology, ii, 562.

2. Emmet: The Principles and Practice of Gynecology, Edition 3, p. 549.

3. Haultain: In Allbutt and Playfair's System of Gynecology, p. 564.

4. Stone, I. S.: Am. Jour. Obst., September, 1908, p. 499.

myomata of varying sizes, which he had removed from a woman six weeks pregnant. The uterus was entirely hidden from view by the surrounding nodular masses. The patient was 30 years old and had been married less than six months. She had been subjected to a conservative myomectomy four years previously. A most difficult and complicated problem confronted the surgeons when the abdomen was opened. The transverse colon was adherent to the growth and all of the omentum was sacrificed in its removal. The adnexa were firmly adherent and hopelessly diseased. The entire uterus was removed save a rim of cervical tissue. The case is one which shows how the most decided changes in the uterus itself, as well as the endometrium, may not prove a hindrance to impregnation.

In regard to adenomyomatous tumors of the uterus, Cullen says[5]:

> The disease is most prevalent between the thirtieth and sixtieth years; it does not in any way tend to sterility. . . . Our experience goes to show that neither an infantile condition of the uterus nor sterility is in any sense a prominent feature with these tumors.

Fibroid tumors may cause sterility by mechanical means. The tumors may distort the uterine canal to such a degree as to obstruct the onward movement of the spermatozoa, or by irritation set up an endometritis, the discharges of which become inimical to the life of the fecundating cell. A tumor may so dislodge the cervix uteri as to make it inaccessible for the semen, hence the sterility. A fibroid, particularly if it is a submucous growth, may keep up a state of congestion of the mucous membrane, this extreme vascularity being unfavorable for the implantation of an impregnated ovum, and hence the sterility.

The cause of benign growths in the uterus not being known, who can say but that the same conditions that are responsible for the fibroids may also cause the sterility? A woman, for example, is fruitful for many years, stops bearing children and develops a tumor. Who can say but that the same factor is responsible for both the tumor and the sterility? Pregnancy is not a simple affair, but the result of a delicate mechanism, and so delicate a mechanism as the fecundation of an ovum must depend on a variety of conditions and not merely on the meeting of the ovum with the sperm cell; hence anything which disturbs this delicate mechanism may be the cause of the sterility. It can not be denied that pregnancy favors the growth of fibroids and that future pregnancies may be interfered with by the greater enlargement of the tumor. We also see cases of conception with fibroids after long periods of sterility.

In considering the subject of sterility, whether the patient is suffering with a tumor or not, there is one thing to be borne in mind, and that is the competency of the male partner. This factor can necessarily never be left out of consideration, and if due attention were given to this subject in every case of sterility with fibroids of the uterus we would find that a large number of these women are sterile because the male partner is incompetent. The competency or incompetency of the male partner has still another bearing on this subject, and that is this: The male partner may be suffering with a sterility due to an obstructive epididymitis from a gonorrheal infection contracted years ago. During the course of marital life the wife suffers a mild gonorrheal infection, which may in turn be the causative factor of the sterility in her, the development of the fibroids in her uterus being incidental and not necessarily the cause of the sterility. In one case of sterility and fibroids one cause may be operative while in other cases the causes may be several. In one case the cause may be a purely mechanical one, while in the other the cause may be a physiologic one. Until we shall be able to tell what the cause of fibroid formation is we shall not be able to formulate an opinion as to the relation of fibroids and sterility.

Sterility and fibroids are certainly closely associated, and this close association must necessarily be assumed to exist when it is considered that fibromyomatous tumors are associated with the periods of sexual activity. As Haultain[6] says: "Their growth is practically confined to the years between puberty and menopause, and it is doubtful if they ever originate before or after this period; indeed, if uncomplicated by secondary changes, they cease to grow after the climacteric."

There are no reliable statistics available of large numbers of cases to show what proportion of fruitful women are subject to myomatous growths of the uterus, to indicate how statistics of that character would compare with fibroids in single and sterile women. The subject of fibroids and their relation to sterility under consideration consists really of two parts; one is the subject of sterility itself and the other is fibroids of the uterus. Sterility by itself is a complex subject, little understood, and the same is true of the cause of fibroids.

From a clinical point of view there is a practical side to this question of sterility and fibroids and the manner of behavior of the myomatous tumors toward the pregnant uterus. Clinical experience has shown that the pregnant uterus, under certain conditions, is tolerant toward the fibroid growth. In these clinically favorable cases neither the pregnant organ itself nor the progress of the pregnancy is in any way harmfully affected by the growths in the uterus. With this evidence at hand we certainly are permitted to infer that fibroids of the uterus, under certain not clearly understood conditions, are not harmful to the pregnancy, to the fetus or to the patient herself. This being the case, we can deduce the practical lesson not to disturb myomatous growths during pregnancy unless there is clinical evidence at hand to show that the pregnant organ has become intolerant to the tumors in its walls. The size of the growth, or its situation, does not necessarily determine the tolerance or intolerance of the pregnant organ toward the tumors, but the size and situation are of great moment, so far as the future labor is concerned. The size of the tumor, and its situation as well, become important factors at the time of the labor on account of the possibilities of the tumor causing difficulties during the delivery in the form of mechanical obstruction.

Right here a practical question may be asked. What type of tumors should be attacked surgically during pregnancy? The teaching is that a tumor should be removed if pedunculated, excessively movable, greatly enlarged, or so situated as to cause mechanical obstruction during the coming labor. Surgical procedures are justifiable under these conditions even if the uterus is tolerant to the tumor in its walls. Pedunculated fibroids are removed because they are subject to twisting during pregnancy; they are also subject to degeneration during the process of subinvolution of the uterus.

To judge properly what fibroids will cause mechanical obstruction during labor is a difficult task. Cases are on record in which competent observers considered

5. Cullen, T. S.: Adenomyoma of the Uterus, 1908, p. 261.

6. Haultain: In Allbutt and Playfair's System of Gynecology, p. 562.

V 53
1909

the situation of the tumors dangerous and undoubtedly liable to cause obstruction during labor, but in which under the test of labor the patients delivered themselves spontaneously or with the aid of low forceps operation. We must be constantly on guard in giving positive opinions on this question of obstructed labor by low-implanted fibroid tumors of the uterus. These low-implanted tumors become lifted out of the true pelvis during the progressive enlargement of the uterus, during the pregnancy, and when labor sets in very little if any mechanical obstruction is encountered.

What is the present teaching as regards the so-called interstitial fibroids and operative interventions during pregnancy? Clinical histories have established the fact that interstitial fibroids are of the type of tumors that cause miscarriages most frequently, and yet tumors of this type, when enucleated during operation, will cause the greatest number of abortions, because the pregnant organ suffers the greatest amount of traumatism during the removal of these deep-seated tumors. In view of these facts it becomes an important question what is best for a physician to do when called on to manage these cases. Each case of this type must be treated on its own merits. If the pregnant uterus seems intolerant to the presence of the tumor, which should be shown by periodic more or less severe uterine contractions, then an operation should be seriously considered, because with symptoms so marked a miscarriage is impending and a myomectomy may jeopardize the pregnancy to a less extent than the persistent uterine contraction.

The submucous fibroids are the type of tumors that cause sterility most frequently. This sterility is due not so much to the tumors themselves as to the congestion to the mucous membrane of the uterus, which their presence engenders and maintains. Once conception occurs in uteri with submucous fibroids the surgical attitude toward these tumors in pregnancy is the same as in the interstitial type of fibroids.

In the multiple fibroids of the uterus pregnancy has proved to be a dangerous complication. Clinical evidences are at hand showing that under those conditions abortions occur frequently, and great difficulty is at times experienced in properly emptying the cavity of the uterus of the product of the conception. Septic infections are frequently encountered in these cases, and gangrene of the tumors is not an infrequent complication, calling for total hysterectomy to save the life of the patient.

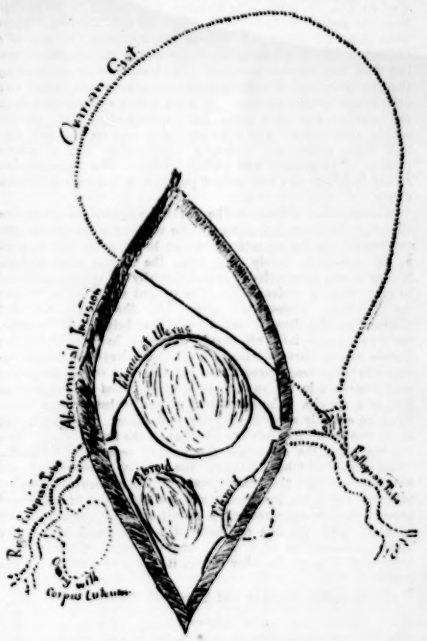
In the case the history of which I shall presently relate several interesting points arose previous to the operation.

1. The patient was suffering with an ovarian cyst which twisted on its pedicle, causing acute symptoms.
2. There were several fibroid nodules to be felt on the uterus.
3. The patient was a primipara, married nine years.
4. She was extremely anxious for a child.
5. For a week or ten days previous to the onset of the acute symptoms the patient had very definite and frequent contraction pains of the uterus, permitting the interpretation of the symptoms that a miscarriage was impending.

When the necessity arose for an operation the question was asked, what would be the best thing to do in this particular case, in view of the definite symptoms present numerated above. Should the offending neoplasm, the twisted ovarian cyst, alone be removed and the fibroids be left undisturbed for fear of inviting a miscarriage, or should the entire surgical field be simultaneously attacked? I felt that in this particular case I had no right to ignore the symptoms that pointed to a tendency on the part of the uterus to empty itself, and so a myomectomy was also performed. The question may be asked, given a case of early pregnancy, with several small fibroids in the uterus that the pregnant organ kindly tolerates, if an ovarian cystoma be present at the same time, whether it would not be good surgery to remove the offending cyst alone and leave the fibroids undisturbed. It seems to me that such a procedure would be perfectly justifiable, since we know that gravid uteri are frequently most tolerant to myomatous growths.

The history of the case is as follows:

CASE 2.—*History.*—Mrs. H., aged 37, was seen on Aug. 9, 1907. She was brought to the hospital in a carriage, having



Fibroids of gravid uterus, and ovarian cyst.

fainted on the street. She was complaining of pain in the abdomen, which came on very suddenly, causing vomiting and fainting, resulting in a collapse on the street. The pain was sharp, cramp-like in character, excruciating at first; it gradually subsided and when I saw her about two hours after the attack her abdomen was simply tender but no pain was present. For a week or ten days before this attack the patient had not been entirely well, having suffered with cramp-like pain in the abdomen, moderate fever, indigestion, and an uncomfortable feeling in the bladder. The cramp-like pain of a bearing-down character, lasting for a short period, would let up only to reappear again at short intervals. She had been married nine years but never had been pregnant; the cause of the sterility was not known. Her menstruation was always normal, of the four-weekly type, moderate in amount, lasting from three to four days. Her last menstruation, on July 28, had been

very scanty, almost none. She did not know if she were pregnant or not, having had some slight morning nausea and the scant menstruation at the last period. Family and previous history negative.

Examination.—The general condition of the patient was good. Heart and lungs normal; abdomen was not enlarged but was tender to the touch. Bimanual examination revealed a slightly enlarged uterus with several fibroidal nodules on its surface. A large movable tumor was also present in the pelvis. The diagnosis was ovarian cyst, with twisting of pedicle, fibroid of the uterus and pregnancy. On account of the extreme movability of the pelvic tumor it was thought that the attack of pain was due to the twisting of the tumor on its pedicle.

The patient was advised to submit to an operation for the removal of the tumor and for a myomectomy. The patient and the family were very anxious for offspring.

Operation.—After careful preparation the patient was operated on Aug. 13, 1907. The abdomen was opened in the median line, the pedicle of the cyst was tied off and removed. There were three fibroids in the uterus varying from the size of a walnut to that of a lemon, the larger one of the tumors extending deep into the uterine wall. The tumors were removed by shelling them out of their beds and the uterus was closed with interrupted catgut sutures. In some places the bleeding from the uterine wall was quite free, necessitating very careful suture application. The ovarian tumor was on the left side. The right ovary was enlarged considerably and a corpus luteum of pregnancy was plainly visible. The abdomen was closed in layers and the patient put to bed in a very good condition.

Postoperative History.—The patient regained consciousness with very little, if any, nausea. She vomited a few times. She returned from the operating-room at 10:30 a. m. and at 4:30 p. m. a bright, bloody flow from the vagina was noticed. Morphin was administered hypodermically to relieve pain and to quiet uterine contractions. The patient was allowed to take water freely. Twenty-four hours later the bloody flow had diminished considerably but it was still bright red in color. Fifty-two hours later all bloody discharge had stopped. The bowels moved thirty-six hours after the operation. Some vaginal discharge reappeared again but this was from some blood that remained in the vagina, as it disappeared on administration of a douche. The abdominal wound healed by first intention; an entirely afebrile recovery took place. The patient sat up in two weeks and left the hospital in the fourth week. Two months after the operation the patient removed to Canada, where she placed herself under the care of a physician, who wrote to me that the patient was making a very satisfactory progress with her pregnancy and no abnormal or untoward symptoms had appeared as a result of the operation. On April 4, 1908, she was delivered of a nine-pound baby. Her labor pains started at 5 p. m. and the baby was born with forceps at 11 p. m. In other words, it was practically a normal delivery.

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ABSTRACT OF DISCUSSION

DR. HOWARD A. KELLY, Baltimore: We are very much at variance in different parts of the country or even in the cities in regard to methods. I am glad that Dr. Grad spoke of the growing tendency to non-interference. I am constantly sending these patients back home without doing that which was expected when they came to me. When the tumor is in the upper part of the pelvis I habitually leave it alone, unless it is producing marked symptoms, and I do not recall any case now within some years that has been producing symptoms requiring interference. I am glad also that he referred to the fact that there were tumors which though low down might get high enough up not to obstruct delivery. When a tumor is low down it is a good practice to put the patient under a little gentle anesthetic and see if it can be pushed up. The chances are then favorable for delivery at term. Even when it is down in the cervical portion the patient may go to term, although when the tumor is large I do not think it is wise to wait for delivery *per vias naturales*. I have had a case of this kind within a year; a large, stout woman was delivered with great difficulty of a large child which lived. Shortly after she was sent to me with an enormous tumor blocking the cervix. Had she come to me at the end of pregnancy and I had found that tumor there I would have said that delivery was impossible. Yet the tumor was slipped up and with great difficulty and with considerable risk to life the child was born. In a case like that of Dr. Grad I would have opened the abdomen and taken out the tumor. I have a number of myomectomies in pregnancy to my credit, successful ones, but I prefer not to interfere, but to let them alone and to wait.

DR. HENRY D. FRY, Washington, D. C.: Dr. Grad has spoken of these tumors which are frequently low down in the pelvis during pregnancy and as a result of pregnancy, the growth of the uterus and contractions of the muscular fibers are drawn up out of the pelvic cavity so that delivery through the natural passages would be possible. When there is a pedicle the tumor can be pushed up, but even in the interstitial form of fibroid, low down blocking the pelvis, I have seen them frequently rise up in the later months of gestation and get above the brim and the woman give birth to her child naturally. On two occasions I have had to do a Porro operation when the fibroid was projecting down in the vagina and when on examination it seemed as if the fetal head were in the pelvis. There was a large round solid mass projecting down and when I operated I thought that I would have to do a panhysterectomy but I found the cervix was pushed away up above the symphysis pubes that the tumor had grown down from behind by a pedicle and was blocking the passage. One danger of leaving these fibroids alone, even when high up in the uterine wall, is the occurrence of suppuration after childbirth. I have had three cases of this kind. One patient was sent to me by Reynolds of Boston, five months pregnant. I intended to let her go until near term and do a Porro operation. However labor commenced unexpectedly with strong pains. When I reached the house the cervix was dilated to the size of a silver half dollar. She was brought to my hospital as quickly as possible. The pains continued until there was almost complete dilatation of the cervix. The labor had progressed so far that I had abandoned the plan of the Porro operation and permitted her to have her child by the natural passages. She did well for five or six days. She then went into collapse, had a high fever and was not in condition at any time afterward when I could do an operation. I knew that necrosis had occurred but she was in such a desperate condition I did not dare to operate. Autopsy showed a fibroid much suppurated. There had been rupture into the peritoneal cavity with suppurative peritonitis. In another case I did a hysterectomy, the woman recovered, and in cutting on the fibroid I found a large abscess. In another patient sent in very recently the tumor was not large. At about the eighth month of pregnancy she had a discharge with a disagreeable odor, and labor pains set in followed by premature delivery of an infant. After delivery I saw her at about the fifth day. She still had this discharge and was in bad condition. Her pulse was 32, very weak and she had septic fever. At the fundus of the uterus could be felt the suppurating necrotic fibroid projecting down from the fundus in the cavity of the uterus. She was in too desperate a condition for operation and we let her alone, watching and stimulating her and she recovered. So I think that when we decide to let these women with fibroids have their babies we must watch them very carefully during the puerperium and on the first sign of fever which we suspect is due to suppuration in the tumor we must operate at once.

DR. A. E. BENJAMIN, Minneapolis: It has been my experience to have a number of these cases degenerate during the time they were in interstitial stage. In one patient sent to me after delivery I found the fibroid so wedged down and adherent that it was almost impossible to get that growth out of the pelvis. I never worked so hard in any case to get the tumor out. Another patient was a physician's wife who had had three miscarriages. She came to me at the sixth month of pregnancy and was beginning to have pain and some fever. She was in bed. I told the husband that she should be operated on. I enucleated a fibroid the size of a lemon about half

V 51
1909

way down the fundus of the uterus. She had a living child born in due time. Examination showed the tumor to be diseased in the center. This has been the case with a number examined. I feel that a certain percentage of these patients should be operated on. By careful manipulation operating on the growth itself, it is not necessary to produce abortion.

DR. J. H. CARSTENS, Detroit: There are many sides to this subject. Last fall I reported cases that I had collected from all over the world—about 550—and if you look those cases over you will find the mortality is very low and that the operative mortality during pregnancy is not greater than in women not pregnant. All these patients were operated on by abdominal section without any trouble. These women could not be delivered otherwise. I have seen women who died undelivered. I had one patient, in whom I had to remove the uterus containing any number of fibroid tumors, who was delivered normally. The fibroids and the uterus were contracted so firmly, however, that it was impossible to deliver the placenta which became decomposed and the woman was septic in the highest degree and I had to operate on her four days after delivery. All these cases occur and it seems to me we can not lay down any definite rule. If a woman is pregnant and has a fibroid or any kind of tumor I think she is in a serious condition and her mental condition is not of the quietest. So we ought to consider seriously whether such patients should be operated on or not. I think a good many require operation during pregnancy and will stand it just as well as at any other time without producing abortion. In these 550 cases it was perfectly astonishing how many women went to full term after myomectomy. These records from all over the world have convinced me that myomectomy during pregnancy is not a serious operation and that furthermore nearly all the women will go to term and will save their children just as well.

DR. H. GRAD, New York City: In this case myomectomy was done because the patient presented definite symptoms of uterine intolerance toward the fibroids in its walls. She had uterine contractions which were very painful and on that account myomectomy was done after the ovarian cyst was removed. Had she had no symptoms I think I would have been tempted to leave the fibroids, and she probably would have gone on to full term as she did.

THE TRANSMISSION OF BOVINE TUBERCULOSIS TO CHILDREN*

HENRY LARNED KEITH SHAW, M.D.
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Theobald Smith in 1896 described certain differences in the virulency, morphology and cultural growth between the tubercle bacilli found in human tuberculosis and in bovine tuberculosis. Koch at once commenced a series of experiments, with the result that he not only confirmed the observations of Smith but went further and announced at the British Congress for Tuberculosis in 1901 the following conclusions:

1. The tubercle bacilli of bovine tuberculosis are different from those of human tuberculosis.

2. Human beings may be infected by bovine tubercle bacilli, but serious diseases from this cause occur very rarely.

3. Preventive measures against tuberculosis should therefore be directed primarily against the propagation of human tubercle bacilli.

Koch has been persistently misquoted and the impression is deeply implanted in the lay and medical mind that he denied absolutely the possibility of human infection from the bovine type of the tubercle bacillus. In order to offset the effect on the general public of such a statement by so eminent an authority several governments appointed commissions to make a thorough investigation. The Royal Commission of England is perhaps one of the most important. The pathologists forming this commission—Woodhead, Martin, Boyce and McFadyean—before their appointment had publicly taken views strongly in favor of the possibility of the frequent transmission of bovine tuberculosis to human beings. It is no secret that they intended and expected to have no difficulty in proving in a short time that Koch was wholly wrong in his position.

They have now been at work over seven years and their conclusions are not much at variance with those advanced by Koch. They find that "there can be no doubt but that a certain number of cases of tuberculosis occurring in the human subject, especially in children, are the direct result of the infection into the human body of the bacilli of the bovine type." They investigated sixty-four cases of human tuberculosis and found the bovine bacilli in only fourteen of these carefully selected cases. Not one of these fourteen were in pulmonary tuberculosis but were from glandular cases.

Ravenel read a paper before the British Congress in 1901 which was diametrically opposed to Koch's views in emphasizing the great frequency of tuberculosis contracted from the ingestion of milk from tuberculous cattle. The same views were reiterated in 1905 and he asserted that the majority of cases of tuberculosis of children were of alimentary origin and due to the bovine bacillus. Last fall, in his public address before the International Congress at Washington, he admitted that only a small but a definite percentage of cases of intestinal tuberculosis in children were of bovine origin.

The situation has recently been summed up by Adami, who says: "The more we have studied the more we have been reducing the number of cases that are of bovine origin and increasing the number of human origin."

It is safe to assert that the scientific world is agreed on the existence of these two types of tubercle bacilli. The technic for their differentiation has been simplified so that the determination can be carried out in any laboratory.

A few investigators, while admitting the existence of these types, believe the differences are due to the host and that the two have a common origin and can revert to the original type after cultural methods and passage through animals. In refutation of this view Theobald Smith says:

> That the bovine type should be converted into the human type has no analogy in the domain of bacteriology and as long as it is not clearly proved to occur, it cannot be accepted on mere speculation. Again, if the bovine and human cultures are indiscriminately transmitted to either species, why should two types have arisen?

This is a question of purely theoretical value in the combat against tuberculosis; for Koch has well said that it is absolutely without significance what changes tubercle bacilli will undergo after being passed through a series of animals or during cultivation under some artificial conditions. Fresh and unchanged tubercle bacilli are taken in the milk and only the morphology of fresh and unchanged bacilli should be considered.

Veranus Moore of Cornell University stated within the past year that between 20 and 36 per cent. of all cattle in the state of New York are affected with tuberculosis.

In Belgium 49 per cent. of the cattle reacted to the tuberculin test and 49.5 per cent. in Denmark. Re-

* Read in the Section on Diseases of Children of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

ports from the slaughter-houses of Prussia showed that 14.6 per cent. of the cattle had macroscopic lesions of tuberculosis and in Great Britain tuberculosis was found in 26 per cent. of the slaughtered cattle. Hess found tubercle bacilli in 16 per cent. of the specimens of milk he examined in New York City. There undoubtedly may be an abundant discharge of tubercle bacilli in the milk when the udder is diseased. It has also been shown that tubercle bacilli are found in the milk of cows in which there are no signs of udder tuberculosis. These, however, are present only in very small numbers. They are found only at intervals because the bacilli after the rupture of some focus do not circulate in the blood for any length of time, but are at once picked up and fixed in the tissues.

The Canadian government made a series of observations on fifteen cows which had reacted to the tuberculin test and been condemned. Tubercle bacilli were found in the milk of 5, and 88 animals (rabbits and guinea-pigs) were inoculated with this milk and only in 3 instances was any trace of tuberculosis found. Ten calves from healthy non-reacting cows were suckled for seven months on the milk of these tuberculous cows and in no instance did tuberculosis develop. The tuberculous cows were slaughtered and all showed tuberculosis, either of the lungs, intestines or glands, but a careful examination failed to detect any involvement of the udder. If calves, who are so susceptible to the bovine bacilli, were not affected in these tests there is but very slight probability that the human infant would be infected with this milk.

Wysckowych found that it was necessary to have at least fifteen tubercle bacilli injected into the tissues of the guinea-pig to produce infection. This is very different from introducing bacilli into the intestines, for it must be remembered that the contents of the intestines are as much outside the body as are the contents of the nostrils or external ear canal. A child might ingest thousands, or even millions, of bacilli and yet too few enter at any one point through injury or lesion of the intestinal wall to be able to set up tuberculosis. It should also be borne in mind that the bacilli do not multiply in the milk.

Infection to tuberculosis during life takes place through the air (inhalation infection) and from the food (ingestion or alimentary infection). The inhalation infection may take place through the nasopharynx, respiratory or alimentary tracts. Holt and Albrecht found involvement of the lymph nodes and lungs in 99 per cent. of their autopsies on cases of tuberculosis in children. In the home of a tuberculous adult the dangers to the child are enormous. Miller, in a study of 150 children whose parents were under treatment for tuberculosis, found physical signs of tuberculosis in 51 per cent.

Infection through the intestinal tract may come from human bacilli coughed up and swallowed; toys, fingers, food, etc., contaminated with human bacilli; or food, especially milk, containing bovine bacilli.

Bovaird, who has given special attention to the frequency of primary intestinal tuberculosis, concludes that it occurs among children in this country in about 2 per cent. of all cases of tuberculosis, while in Great Britain it is found in 18 per cent. Albrecht of Vienna found only 7 cases of primary intestinal tuberculosis in 3,213 autopsies, of which 1,060 showed signs of tuberculosis. Comby, in his series of 1,447 autopsies on children showing tuberculosis, did not find a single case of primary intestinal tuberculosis. He also makes the assertion that in his private practice among dispensary and hospital patients during twenty-five years of practice he has never seen a case of tuberculosis in a child contracted through the milk. He points out that tuberculous cattle have been largely exterminated in the dairies supplying Paris with milk and that milk in its raw state is very rarely used for infant-feeding, yet these stringent prophylactic measures against bovine tuberculosis have not had the slightest effect on the mortality of tuberculosis in children. Holt says: "Infection through the intestinal canal by means of tuberculous milk I believe to be a very infrequent means of acquiring tuberculosis in infancy."

Kitasato and Shiga have recently written interesting articles on tuberculosis in Japan; they show that human tuberculosis is as frequent in Japan as in the civilized countries of Europe and America. They also state that intestinal tuberculosis is relatively common in children although cow's milk is never used and plays no rôle at all in the feeding of children. Avison, a medical missionary in Korea, found tuberculosis very common and yet the natives never touch cow's milk or give it to their children. Responsible observers in other portions of the globe have reported similar conditions.

Harlow Brooks' account of the eradication of tuberculosis among the monkeys in the New York Zoo is significant. For years the mortality from tuberculosis was a great source of expense, as about 50 per cent. died from this disease. In making the autopsies Brooks was struck by the similarity of the tuberculous lesions in monkeys and children. A thorough disinfection of the cages was made and the healthy and diseased monkeys separated. Every new monkey was given a careful physical examination and kept in quarantine for several weeks. Tuberculosis was eliminated in the course of two years and the mortality reduced to nil. The food and milk was not changed, so the contagion must have come through the sputum or direct contact, not from the milk.

Infectious diseases are not infrequently found confined to the route of one milkman. There is no instance on record in which it has been pointed out that many of the children along one route have shown intestinal or general tuberculosis, although it is quite probable that the majority if not all the cows supplying the milk may have advanced udder tuberculosis.

Passage of the bacilli through the intestinal walls and mesenteric lymph glands into the thoracic duct and thence deposited in the lungs is the explanation of some excellent pathologists of the infrequency of intestinal tuberculosis.

Cornet made over 3,000 animal experiments and formulated the law that wherever tubercle bacilli are introduced into the body they produce either a localized tuberculosis or involve the regional lymph glands surrounding the area of infection. It is hard to understand on the basis of these experiments how the bovine bacilli could pass through the mesenteric glands without producing any changes in the tissues and then set up tuberculosis in remote organs. Albrecht, in his large series of autopsies, finds that the Cornet law applies invariably to the source of infection in children and he denies the possibility of the infection entering the circulation through the intestinal tract without leaving any trace in the mesenteric lymph glands. Holt acknowledges the possibility of the bacilli entering the digestive tract without producing intestinal lesions and

V 53
1909

setting up a lung or bronchial gland infection, but he asserts that this is not the usual course or the natural interpretation of the conditions found at postmortem examination. Theobald Smith calls attention to the fact that the tubercle bacilli are living organisms which arouse a more or less prompt reaction on the part of the invading tissues, and that they can not travel about the body at will without being recognized and held.

Bovine tubercle bacilli have never been detected in the sputum of tuberculous patients. At a private conference at the International Congress at Washington Koch asked about fifty of the leading pathologists and bacteriologists of the world if they could quote any case in which bovine bacilli had been surely isolated from human cases of pulmonary tuberculosis. One such case was cited, but the possibility of contamination had not been fully guarded against, so that it can be stated that up to the present time no authentic case of pulmonary tuberculosis in man due to the bovine type of tubercle bacilli has been reported. The natural conclusion from this is of great value, as statistics show that fully eleven-twelfths of deaths from tuberculosis are from the pulmonary variety and only one-twelfth from all other forms of the disease. A number of pathologists have found bovine bacilli in tuberculous glands. Theobald Smith isolated bovine bacilli in twelve out of twenty-eight tuberculous cervical lymph glands removed by operation and in one case of tuberculous meningitis. Hess examined mesenteric glands from three cases of primary intestinal tuberculosis in children, but found the human type in all three cases. He has found the bovine type of tubercle bacilli in excised tonsils. Hamilton White examined a series of tonsils removed from children and inoculated them in guinea-pigs. Some of the pigs died from septicemia, but of the 50 pigs inoculated not one showed tuberculosis of either type. The English and German commissions have also found bovine bacilli in tuberculous lymph glands. Theobald Smith, from his personal investigation and study of the literature, believes that "between 1 and 2 per cent. of all cases of tuberculosis will show bovine bacilli and that in individuals over twelve years of age they will be found only very rarely."

I have reported an instance in which a strong chain of circumstantial evidence convicted a cow of transmitting fatal tuberculosis to a fourteen-months-old infant. Organs from the infant were sent to the Pathological Laboratory at Harvard, where the bacilli were found to be of the human type. The cow was slaughtered and no trace of tuberculosis could be found, although she was said to have reacted positively to the tuberculin test. Kerley has reported several instances in which all appearances were against the cow but on bacteriologic investigation the lesions were found to be due to the human type of tubercle bacillus.

A circular letter of inquiry regarding the possibility of bovine transmission was sent to the members of the American Pediatric Society and leading pathologists. Thirty-seven believed it possible, although ten of these qualified their replies by stating that transmission occurred "in relatively rare cases," "exceptionally," "to a very limited extent," etc. Five replied in the negative, while twenty-five would express no opinion. Only three of the thirty-seven who believed in the transmission of bovine tuberculosis could report positive cases in which the infection came clearly from the milk and the bacilli proved to be of bovine origin.

The question is far from settled. Professor Adami of Montreal recently stated that "at first Koch went to one side too much and his opponents went to the other side too much, but at present the truth seems to have come nearer Koch's view than the other view."

The secular press is well supplied with sensational articles magnifying the great damage of bovine tuberculosis. This campaign of newspaper advertising will result in a wide-spread belief among the laity (and unfortunately some members of our own profession) that bovine infection is the principal cause of tuberculosis in man. As a natural sequence the public would feel it could disregard the ordinary rules of sanitation and hygiene provided the possibility of infection through milk could be eliminated by pasteurization of milk and slaughter of tuberculous cattle.

Dr. Bensel of the New York City Board of Health has said that he "deprecated the spread of alarm in the mind of the public as regards the danger of tuberculosis from milk."

Koch declared at Washington that in order to decide this important question he was going to undertake experiments on a broad scale during the next two years. This great problem is so vital that it should be dealt with in a temperate and scientific manner.

In a previous communication on this subject I have stated that tuberculous cattle are a menace to public health and give the disease through their milk in rare instances. Efforts to stamp out the disease in cattle should be made, but the attention of the public should not be diverted from the great and very real danger of human contagion. Whether this takes place through the respiratory or digestive tract is immaterial.

In view of the practical bearing of this question from a sanitary, hygienic, and dietetic point of view and the evident confusion and lack of positive knowledge, this Section should take up a systematic study of bovine tuberculosis and its transmission through milk. A committee could be formed to make a report at each meeting of the work that is being done in different countries and to urge and see that a differential bacteriologic examination be made in all suspected cases, not alone of intestinal involvement, but of the bronchial glands, lungs, and tonsils. State laboratories and pathologic laboratories of medical colleges would gladly aid in such an investigation.

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ABSTRACT OF DISCUSSION

DR. WILLIAM H. PARK, New York: It is now accepted by nearly every one that Koch went too far, in virtually excluding bovine infection as a source of tuberculosis in man. The British reports may lead to conclusions too far the other way. If this is so, it is only because their material was selected from one locality. The men who did the work are of such ability and standing that a charge of bias hardly deserves consideration. Undoubtedly there are some who believe that nearly all tuberculosis comes through milk, but most of us are convinced that human tuberculosis, in the great majority of cases, is due to human infection. If we are to determine through bacteriologic findings the source of infection, it must first be established that the human and bovine types of health have persistent and clear-cut differences. We have sufficient facts to enable us to state definitely that cultures obtained from infants under a year, show their original characteristics so that when we find a distinct bovine or human type we can say definitely that this infection is from a human or a bovine source.

With a number of bacteriologists in the New York Department of Health, I have been testing the characteristics of the

tubercle bacilli in a large number of cases. We are trying to get a fair quantitative opinion by taking all the cases of tuberculosis in these children's hospitals. We have examined additionally cultures from 200 adults and they have all been of the human type. So far we have finished our tests of the cultures from 70 children. These comprised 35 cases of generalized tuberculosis and an equal number in which the disease was localized largely in the lymph glands, bones or joints. Of the 35 suffering from generalized tuberculosis, 6 were due to the bovine type of the bacillus; 4 of these 6 bovine cultures came from 8 children obtained from one hospital. None of these was fed on breast milk. Of the other 29, only 2 were of the bovine type. Of the 35 cases of general infection in infants, there were 10 in which meningeal symptoms were pronounced and all were due to the human type.

One history is interesting: A little child who had been started on certified milk, after the third month was given commercial milk. A little later this child developed abdominal tuberculosis, and was operated on unsuccessfully. The bacilli were found to be of the bovine type. Two samples of the milk when injected produced tuberculosis. Several of the cows on the farm showed advanced tuberculosis, but no other tuberculosis was detected.

Of the surgical cases, there were 29 of involved lymph nodes. Of these 20 were due to the human type and 9 to the bovine type. Of the 5 cases in which a joint was involved all were human. In one patient with abdominal tuberculosis, operated on with recovery, the bacillus was bovine. Altogether 23 per cent. of all the cases among young children were due to the bovine type and 17 per cent. of the fatal cases. I judge that about 1.5 per cent. of all cases of fatal tuberculosis in New York City is due to bovine infection. That would mean at least 200 deaths. Of course 200 or 300 deaths are not many when contrasted with the total number, and yet if they occurred from any other disease it would be considered a very important matter. I believe we can take measures to prevent this type of infection without interfering with the far more important work of controlling the spread of infection from man. In the course of a few years we will have definite results from the investigations now being carried out in many centers of population and the relative importance of bovine and human bacilli in human infection will thus soon be finally settled for the whole civilized world.

Dr. Alfred F. Hess, New York: I don't believe that Professor Koch is misjudged in his statements. He said that bovine tuberculosis was very rare and that it did not require more consideration than the congenital type. Dr. Shaw has shown that is not correct. If these types of human and bovine tuberculosis interchange, then we have made but little progress; but I do not believe that it has been definitely shown that these types do interchange. It is difficult to get at this question because we do not know the time of the bovine infection; we are almost never able to say when the infection took place. Recently I had occasion to examine two cases of butchers' tuberculosis in slaughter-house employés. One had been infected four years ago and in the other the infection had occurred six years ago. In both cases I injected a guinea-pig and in both cases the bacillus was typically bovine and had not assumed the human type. Again, if the bacillus does not change in the human tissue, we ought occasionally to find the bovine bacillus in early pulmonary cases before this hypothetical change has taken place; whereas it has been shown that a bovine case of pulmonary tuberculosis has not been recorded. As to the small percentage being important, 1 per cent. does not seem large, but when you recall that the yearly mortality in the United States from tuberculosis is about 200,000, then certainly 1 per cent. mounts up to thousands of cases. If these cases were classed as foot-and-mouth disease, it would certainly be regarded as important enough to require even Federal consideration.

Dr. S. McC. Hamill, Philadelphia: If it has been demonstrated, as it has by Dr. Park's statistics, that as many as 300 deaths occurred from bovine tuberculosis in children under 5 years of age in one year in New York City, then the number of deaths in children from this cause in the entire United States must represent a very high figure. I think the men investigating the incidence of bovine tuberculosis have done it in a fair-minded way. The attitude of those who have opposed Professor Koch has been not to demonstrate bovine infection, the sole or chief type of infection, but to prove that bovine tuberculosis is not a negligible quantity and that it represents an important percentage of the cases which occur in early life and that it is the duty of those directing the health of communities to protect the public from the possibility of this form of infection.

Dr. H. L. K. Shaw, Albany: I did not mean to criticize the British investigators. They were very fair. Dr. Park's figures correspond exactly with those of Theobald Smith. I do not want to belittle the question of bovine tuberculosis, but the New York State Board of Health can not get more than $7,500 to fight human tuberculosis, and my aim was to emphasize the importance of the fight against human infection.

EMBOLOMYCOTIC ANEURISMS *

DEAN LEWIS, M.D., and V. L. SCHRAGER, M.D.
CHICAGO

Aneurisms developing during the course of endocarditis and occasionally during some of the acute infectious diseases form a distinct group. The frequent involvement of the visceral arteries and the latency of clinical course probably accounts for the relatively small number which have been noted *in vivo*, most of the cases having been discovered accidentally during routine post-mortem examinations. These aneurisms differ in pathogenesis, clinical course, and prognosis from those developing secondary to chronic arterial changes. Enough isolated cases have now been reported to warrant a critical examination of the clinical histories with the view of obtaining data relative to the diagnosis and the lines of treatment to be followed in cases of this type.

Rokitansky[1] as early as 1844 recognized and described true abscesses in the walls of arteries, the sequence of the lodgment of infected emboli.

The first description of an embolomycotic aneurism was apparently made by Koch[2] in 1851. Koch's patient was a young man, 22 years of age. He was being treated for endocarditis, when, without any previous abdominal symptoms, he suddenly died with all the manifestations of intra-abdominal hemorrhage. The autopsy revealed vegetations on the mitral valve and a ruptured aneurism of the superior mesenteric artery. A little later than this English clinicians and pathologists described a series of cases and recognized the relationship existing between embolism and aneurism formation.

ETIOLOGY

In 1853 Tufnell[3] reported an aneurism of the popliteal artery in a young man, aged 25. In the history of this case it is stated that there were "cauliflower-like excrescences" on the aortic valves.

Thirteen years later Oggle[4] stated that there was a definite relationship between aneurisms in young people and verrucous endocarditis. Church,[5] Goodhart,[6] Barlow and other English observers were of the opinion that many aneurisms in young people were of embolic origin.

* From the Surgical Department of Rush Medical College.

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4. Oggle, J. W.: Med. Times and Gaz., 1866, i, 196.
5. Church, W. S.: The Formation of Aneurisms and Especially Intracranial Aneurisms in Early Life, Rep. St. Bartholomew Hosp., 1870, vi, 99.
6. Goodhart, J. F.: Cases of Aneurism from Embolism, Tr. Path. Soc., London, 1877, xxviii, 106.

V 53
1909

Ponfick[7] and Eppinger[8] were the first, however, to make careful anatomic examinations of aneurisms of this type. The former found in one of the early cases of aneurism of the cerebral vessels studied by him a pointed, calcified embolus projecting through the arterial wall into the cavity of the false aneurism. He suggested a purely mechanical causation and believed three things necessary for the development of an aneurism of this type: (1) a calcified, pointed, barbed embolus; (2) lodgment of the embolus at the bifurcation of a vessel; (3) loose connective tissue surrounding the vessel, and not resistant tissue which could afford some support to the arterial wall. He cites in support of the third requirement that embolomycotic aneurisms do not occur in the renal vessels, although pointed, calcified emboli must lodge there, while they are relatively common in the vessels of the loose cellular tissues about the spleen and in the mesentery, and still more common in the vessels of the soft brain tissue.

This traumatic or mechanical explanation did not suffice for all aneurisms of this type, for cases were frequently found in which a soft embolus was found at the site of beginning aneurism formation. Eppinger, employing reliable bacteriologic technic, could establish a direct relationship between the embolus at the site of aneurism formation and the endocardial vegetations, as he could demonstrate similar bacteria in each. He believed that, as the result of lodgment of an infected embolus, an exudative periarteritis and later a mesarteritis developed, that a part of the elastic and muscular elements were destroyed by bacteria and their toxins, and that the remaining parts of the media and adventitia were forced outward to form the sac of the aneurism. He suggested that the term "embolomycotic," embracing both the embolic and infectious nature of the lesion, be applied to aneurisms of this type.[9]

The suggestion that an aneurism might follow the lodgment of a benign embolus, the dilatation being due to the sudden increase of pressure proximal to the point at which the embolus lodged, cannot be accepted. If aneurisms could be caused in this way, they would certainly develop frequently after the ligation of vessels, and this practically never occurs unless infection develops at or proximal to the point of ligation.

We believe, after an examination of the literature and of the cases herewith reported, that this type of aneurism may develop in one of three ways. Most commonly they follow an endarteritis associated with lodgment of infected emboli at the bifurcation of arteries. The process, beginning in the intima, reaches the membrana elastica interna, which is destroyed by the infection permitting of either a localized or generalized distention of the arterial wall. Extensive destruction of the elastic fibers was easily demonstrated in the brachial artery examined by us by Weigert's stain. The observations made by Ponfick and Thoma[10] of calcified emboli in the arterial wall and projecting into the aneurism demonstrate the possibility of traumatic origin. Gambaroff[11] suggests the lodgment of either an infected or bacterial embolus within the media, the embolus passing in through the vasa vasorum. An aneurism developing after the lodgment of the embolus in the media would probably be of the dissecting type.

A few cases of aneurism have been reported which developed during the course of infectious diseases, unaccompanied by endocardial changes. E. Ruge reports an aneurism of a coronary artery in a boy, aged 12, which developed during suppurative osteomyelitis, and Cathcart[12] an aneurism of the femoral artery during typhoid fever. Streptococci were found in the wall of the aneurism in the case observed by Ruge. Cases such as these and those in which the aneurism develops in the course of an artery, rather than at the bifurcation, suggest other etiologic factors. Some of the aneurisms which are regarded as of embolic origin may be due to the arterial changes which have been described by Wiesel[13] during infectious diseases in which embolism can be excluded. As a result of his studies Wiesel comes to the following conclusions:

1. During the course of various infectious diseases well-defined pathologic changes occur in the arteries. These, at first limited to the media and in the majority of cases confined to it, consist of degeneration of the musculature and of the elastic fibers. Degeneration occurs in foci, which may be quite numerous in the separate vessels, and leads in severe cases to an actual necrosis of the vessel wall. Healing may occur by scar formation or *restitutio ad integrum*. If the process extends to the intima, cicatricial changes occur and the vessel is permanently damaged. In advanced cases the changes may be recognized macroscopically.

2. The changes affect all arteries up to a certain caliber (about that of a digital artery), the distribution of foci varying from case to case, the aorta, cerebral and cardiac vessels being, however, most frequently involved.

3. The cases may be separated into two groups: those associated with especially marked involvement of the elastic elements as in diphtheria, typhoid fever, influenza and pneumonia, and those with most marked changes in the media, as in scarlet fever and septicopyemia.

This work has been cited in detail to show the frequency of arterial changes in infectious diseases. It is quite possible that some of the aneurisms in these diseases have followed these changes, which apparently bear no relation to embolism.

Clinically, embolomycotic aneurisms differ from those following chronic arterial changes: (1) In developing at an earlier age; (2) in frequently being multiple; acute and chronic forms often occurring in the same individual; (3) in the frequent involvement of visceral arteries; and (4) in the tendency to remain small.

It is often difficult to determine the etiologic factors in aneurism in the young. A number of cases are reported in which no satisfactory explanation is given as to the cause. Congenital aneurisms, described by Kussmaul and Meyer and ascribed by Eppinger to an inherent weakness of the arterial wall, are considered by Romberg to be of infective origin. Astley Cooper observed an aneurism of the anterior tibial artery in a boy aged 11, and is responsible for the statement that Mr. Clive had ligated the same artery in a boy (age not stated) for an aneurism which had existed in the upper part of the foot for two years. Cooper is reported to have said that he had been told of two instances of aneurism in children, one involving the carotid, the other the popliteal artery. A definite etiology was not

7. Ponfick: Ueber Embolische Aneurysmen, nebst Bemerkungen über das acute Herz-Aneurysma, Arch. f. path. Anat. u. f. klin. Med., 1873, lviii, 528.

8. Eppinger, H.: Pathogenesis (Histogenesis und Aetiologie) der Aneurysmen einschliesslich des Aneurysma equi verminosum, etc., Arch. f. klin. Chir., 1887, xxxv, 404.

9. The possibility of the embolic origin of aneurisms has been recognized by veterinarians for a long time. These aneurisms are relatively common in horses, the anterior mesenteric artery being most commonly involved and the *Strongylus armatus* being found in the sac. Such cases have been described by Bollinger and are mentioned in the ordinary text-books of veterinary medicine.

10. Thoma: Ueber die Aneurysm. Deutsch. med. Wchnschr., 1889, Nos. 16-19.

11. Gambaroff, G.: Ein Fall von Rupturaneurysma der Aorta infolge von infektiöser hematogener Mesaortitis, Beitr. z. path. Anat. u. z. allg. Path., 1906, xxxix, 94.

12. Cathcart, R. S.: False Aneurisms of the Femoral Artery following Typhoid Fever, South. Med. Jour., 1909, ii, 503.

13. Wiesel, J.: Die Erkrankungen arterieller Gefässe im Verlaufe akuter Infektionen, Ztschr. f. Heilk., 1906, xxvii, 262.

given for these cases. Keen[14] describes a brachial and thoracic aneurism in a girl aged 18 without any heart changes, and also describes one of one of the interosseous vessels of the hand in a young girl. The last was probably of traumatic origin.

In 1903 Le Boutillier[15] published an article dealing with aneurism occurring in early life. He collected reports of 60 cases, 17 of which involved the thoracic and 6 the abdominal aorta. The remaining 37 involved vessels other than the aorta. In 7 of the cases in which the aorta was involved there was either a recent endocarditis or thickened plaques on the valves. Similar conditions were found in 11 of the 37 cases in which vessels other than the aorta were involved.

Table 1 demonstrates the frequent occurrence of embolomycotic aneurisms in those who are relatively young. The age of 57 of the 65 patients, including the cases observed by us, have been mentioned.

TABLE 1.—AGES AT WHICH EMBOLOMYCOTIC ANEURISMS OCCUR

Age.	No. Cases.	Age.	No. Cases.
1 to 10	6	31 to 40	9
11 to 20	15	41 to 50	4
21 to 30	22	51 to 60	1
			57

About one-third of the cases which have been observed developed during the third decade, and about one-fourth during the second. This is in marked contrast to the age at which aneurisms secondary to chronic arterial changes are most common.

The direct relationship between endocardial changes and aneurisms in the young is positively demonstrated by these statistics, and we have to conclude that the most important factor in aneurism formation in the young is endocarditis, trauma being the next.

These aneurisms are much more common in the male than in the female. The sex has been mentioned in 57 cases, 41 patients being males, 16 females. In the 14 cases of endocarditis recently studied by Rosenow, 6 patients were males and 8 females. The great preponderance of males afflicted with embolomycotic aneurism suggests the possibility of some determining factors in the development of this type of aneurism. We have attempted to determine whether or not there might be some factors which would favor the lodgment of emboli or favor aneurism formation in the male, but the histories have not been complete enough in most cases to enable us to draw any conclusions as to the blood pressure or chronic renal changes.

We have collected, including the cases observed by us, reports of 97 aneurisms of this type. They occurred in 65 patients, the aneurisms frequently being multiple. The average age of 57 patients (the age of 8 not being mentioned) is about 23 years. The age of the youngest patient is 5 years, that of the oldest 53.

LEWIS AND SCHRAGER'S CASES

The clinical course of aneurisms of this type is well illustrated by the cases observed by us, abstracts of the histories of which follow:

CASE 1.—*Patient.*—M. Q., a Swede, aged 43 years, was admitted to Dr. Sippy's service at the Presbyterian Hospital April 3, 1908. He had had four distinct attacks of acute, articular rheumatism. Venereal diseases were denied. For several years he had suffered with precordial pain and palpitation of the heart. The symptoms had recently become so severe that he was obliged to quit work.

Examination.—When the patient entered the hospital he complained of precordial pain, palpitation of the heart, and general weakness. He was fairly well nourished; there was some puffiness of the eyelids and some anemia. The pupils reacted to light and accommodation. Eye-grounds were negative, vision good. The nasopharynx and lungs were negative. Cardiac dulness extended half an inch beyond the left mammary line. Auscultation revealed a presystolic murmur, a snappy first tone and a diastolic rumbling at the apex which was transmitted upward.

Course of Disease.—May 20, 1908: Patient complained of a sharp pain in the left hypochondrium associated with a rise of temperature. The left kidney became tender and the urine contained a large number of red blood corpuscles.

May 31, 1908: Patient had a severe chill, accompanied by a rise of temperature, the left kidney becoming tender. Temperature dropped to normal, June 1.

June 2, 1908: Slight rise of temperature and a sudden, violent pain in the left antecubital fossa.

June 21, 1908: A distinct aneurism, the size of a goose-egg, had formed in the left antecubital fossa at the bifurcation of the brachial artery. The aneurism had developed to this size in nineteen days.

July 12: The aneurism had not increased much in size for about three weeks, but on this date, because of the pain occasioned by it, a proximal ligation of the brachial artery was

Fig. 1.—Aneurism at bifurcation of brachial artery on day after operation.

performed under cocain anesthesia. The pain promptly subsided and in about four weeks the aneurism could be pronounced healed.

August 30: The patient complained of severe pain in the right antecubital fossa. Localized tenderness and some edema developed. The patient frequently complained of pain in the epigastric and hypochondriac regions. These were paroxysmal in character and associated with chills and fever; often followed by blood in the urine. The patient gradually grew worse, became edematous, dyspneic and cyanotic, developed hematuria and hemoptysis, and died Feb. 6, 1909.

Cultures were made at different times from the blood in the aneurismal sac by Dr. E. C. Rosenow. All were sterile. On one occasion, just after a pulmonary infarct, the pneumococcus was recovered from the general circulation, but this was the only time. Blood-pressure varied from 140 to 165 mg. of mercury. Before death the site of the aneurism felt like a long, hard connective tissue mass. The radial and ulnar pulses had not returned. Sensation in the hand and temperature of the same were not affected by ligation of the artery.

Autopsy.—This, performed by Dr. Evarts Graham twelve hours after the patient's death, revealed the following: A puckered scar in apex of the left lung; pleural adhesions on the right side; clear fluid in the left pleura; adhesive pericarditis; calcified vegetations on mitral valve; enlarged liver with a few scars on the surface. The spleen weighed 780 gm. and was divided into three lobes by bands of connective tissue which ran a quarter of an inch into the splenic tissue. A recent infarct was found in the middle segment. Several scars were found in both kidneys. A recent aneurism, the size of a hick-

14. Keen, W. W.: Two Cases of Aneurisms in Girls of 18 and 8 Years of Age, Med. News, 1887, ii, 725.

15. Le Boutillier, T.: A Case of Aneurism of the Transverse Portion of the Aortic Arch in a Girl Nine Years of Age, with Table of Reported Cases under Twenty Years of Age, Am. Jour. Med. Sc., 1903, cxxv, 778.

V 53 1909

ory nut, was found on one of the branches of the superior mesenteric artery. It was a saccular aneurism, the cavity being filled with a laminated clot. The brachial artery at the site of the aneurism was isolated with considerable difficulty from the surrounding tissues, which seemed to form part of it. The brachial artery immediately above and below the point of ligation was patent. Blood-cultures made by Drs. Schrager and Clements after death reveals streptococci and pneumococci.

As bacteria were not recovered from the aneurism, the entire mass was imbedded in celloidin and sectioned serially with a view of determining whether or not the aneurism was of a traumatic type, due to perforation of the arterial wall by a pointed, calcified embolus, similar to the endocardial vegetations. Every fifth section was mounted and studied, but no embolus was found. The dilated lumen of the vessel involved was closed by a thrombus, which had become detached from the intima during the process of imbedding and cutting. The arterial wall showed marked changes. The intima was practically destroyed; the elastic fibers of the membrana elastica interna took the stain poorly and were broken up into groups. Bundles of fibers of the media were separated from each other

Fig. 2.—Cross-section of brachial aneurism seven months after ligation. A indicates point at which rupture of the arterial wall occurred.

by groups of leucocytes and small, round cells, the histologic picture sugesting that the aneurism might have been of the dissecting variety.

CASE 2.—*Patient.*—A young man, aged 21, was admitted to Dr. Billings' service at the Presbyterian Hospital, April 23, 1908. He gave a history of several attacks of acute articular rheumatism. Two weeks before admission to the hospital he complained of sudden, severe pain just above the left hip-joint. A swelling in which the patient stated that he had noticed pulsation soon developed at the site of the pain.

Examination.—The swelling, situated above and to the outer side of the left trochanter, was as large as a medium-sized grapefruit. It had an expansile pulsation, and a distinct thrill and bruit could be elicited over it. Pulses in popliteal vessels were equal and of the same frequency. Physical examination of the heart revealed the following: Apex-beat fifth interspace just inside the nipple line; no thrill; dulness extended 1 cm. to left of mammary line, to the right sternal border, and above to the third rib. A distinct, loud diastolic murmur was heard over the aortic area and along sternum downward, but this was not transmitted along the vessels of the neck and was heard but faintly at the apex. Capillary pulse present in fingers. Regular water-hammer pulse.

Course of Disease.—May 12, 1908: Needle introduced into the swelling revealed bright red blood. Blood obtained at depth of 3 cm. under pressure. Cultures from this blood positive, a Gram-positive diplococcus in chains of 6, 8 and 10 being isolated. The diplococcus grew well on blood-agar, plain agar, Loeffler's blood serum and in bouillon.

May 29, 1908: The character of the swelling had changed. It had become more extensive and decidedly boggy. It had extended upward, and just below the crest of the ilium there was a marked tenderness. Evidently the aneurism had ruptured.

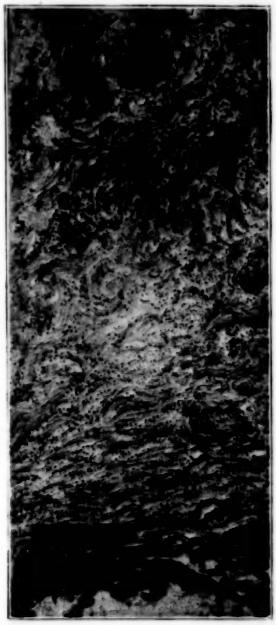

Fig. 3.—Cross-section through wall of artery, showing the bundles of the media separated by groups of leucocytes and small round cells.

June 16, 1908: A soft, pulsating mass, the size of a walnut, developed under the left jaw. No distinct fluctuation.

July 19, 1908: Patient suddenly developed a right-sided hemiplegia, became comatose and died. An autopsy was not permitted, but the clinical findings were definite enough to warrant a diagnosis of aneurism of the gluteal artery.

CASE 3.—*Patient.*—A man, aged 36; no previous history of rheumatism. Five months previous to the beginning of present illness the first lower molar tooth on the right side ulcerated. The tooth was crowned, but the crown had to be removed one month later to let out the pus. It was soon replaced, no trouble developing until one week before death. On Jan. 23, 1909, patient consulted Dr. Slaymaker, complaining of soreness of the throat, running of nose, severe muscular pains, backache and prostration. A probable diagnosis of influenza was made, but the patient grew worse. He entered the Presbyterian Hospital four days later.

Examination.—The spleen was palpable, but there was no agglutination of typhoid bacilli by the serum. No heart murmur detected. The leucocyte count was 7,950 (four days later 12,380), hemoglobin 76. No malarial parasites. Urine negative.

Course of Disease.—On Feb. 19, 1908, there was severe pain over kidneys and right side posteriorly, requiring morphin for relief. Urine, previously normal, now contained albumin and a large amount of pus, many leucocytes, granular and blood casts. There were numerous small petechial hemorrhages beneath the skin. A distinct systolic murmur transmitted to the left was heard at the apex. From this time on the patient failed rapidly, the clinical picture being that of a severe infection. Three days before death he developed a left hemiplegia. The petechiæ became so numerous that a large part of the body was covered by them; conjunctival hemorrhages were also present.

Two blood cultures during life and cultures after death revealed a staphylococcus.

Anatomic Diagnosis.—Alveolar abscess, acute mitral ulcerative endocarditis, embolomycotic aneurism of the superior mesenteric artery, thrombosis of the splenic vein, multiple infarcts of the spleen and kidneys, cloudy swelling and fatty degeneration of the liver, myocardium and kidneys; icterus, anemia and emaciation; multiple hemorrhages of skin, conjunctivæ, serous and mucous membranes, endocardium, myocardium, adrenals and kidneys, hyperplasia of the mesenteric lymph nodes and spleen; lobular pneumonia; emphysema of the lungs.[16]

Fig. 4.—Aneurism of superior mesenteric artery discovered at autopsy held on patient seven months after ligation of brachial artery.

DISTRIBUTION

The following table, including 92 aneurisms collected from the literature and the 5 observed by us, demonstrates well the frequency with which visceral vessels are involved.

TABLE 2.—RELATIVE FREQUENCY WITH WHICH THE DIFFERENT VESSELS ARE AFFECTED

Superior mesenteric	25	Internal carotid	1
Cerebral	22	Subclavian	1
Aorta	12	Axillary	1
Femoral	9	Radial	1
Brachial	8	Innominate	1
Splenic	5	Vertebral	1
Popliteal	2	External iliac	1
Ulnar	2	Renal	1
Gluteal	2		—
Common iliac	2		97

The following cases are cited to show the number of aneurisms that have been observed in a single patient. In one of Libman's[17] cases there were four aneurisms of the superior mesenteric artery, a fifth on the right branch of the hepatic artery, and a sixth on the right femoral. Before death, the patient developed hemiplegia with aphasia, probably due to rupture of an aneurism of the left Sylvian artery. In the case reported by McCrae,[18] there were five distinct aneurisms of the ascending aorta. In Osler's case there were four aneurisms on the arch of the aorta.[19]

This distribution is in marked contrast to that of the ordinary type of chronic aneurism, as is shown by the statistics compiled by Crisp. Among the 551 aneurisms, reports of which were collected by him, there is not a single instance of involvement of the superior mesenteric artery, and but seven instances of involvement of the cerebral vessels; while aneurisms of the femoral, carotid, subclavian, innominate and axillary arteries are common. Aneurisms of the superior mesenteric artery must be very uncommon, for von Schrötter[20] states that

Fig. 5.—Two small aneurisms of the superior mesenteric artery. These aneurisms had caused no symptoms, being discovered during a routine post-mortem examination.

there was but a single instance of aneurism of the superior mesenteric artery among 19,300 cases which came to autopsy at the general hospital in Vienna during a period of ten years.

SYMPTOMS

Most of the few cases of aneurism of the superior mesenteric artery that have been published have been of little more than pathologic interest, as they were found during routine post-mortem examinations, and von Schrötter's statement holds true, that these aneurisms give rise to no characteristic symptoms and are usually not suspected until symptoms of fatal intra-abdominal hemorrhage develop.

Gallavardin[21] in 1901 collected reports of 23 cases of aneurism of the superior mesenteric artery from the literature, the etiology of which could be established in 16. Nine of the 16 cases were undoubtedly caused by the lodgment of infected emboli at the points where branches were given off.

16. These two cases have been noted in the anatomic diagnosis of two of the cases studied by E. C. Rosenow: Immunological and Experimental Studies on Pneumococcus and Staphylococcus Endocarditis (Chronic Septic Endocarditis), Jour. Infect. Dis., April 1, 1909, vi, 245.

17. Libman, E.: Cases of Mycotic Aneurisms, Tr. New York Path. Soc., May, 1905.

18. McCrae, John: A Case of Multiple Mycotic Aneurisms of the First Part of the Aorta, Jour. Path. and Bacteriol., 1905, x, 373.

19. Osler: The Gulstonian Lectures on Malignant Endocarditis, Brit. Med. Jour., 1885, i, 469.

20. Von Schrötter: Gefässerkrankungen, Nothnagel's Specielle Pathologie und Therapie, 1898, xv, 271.

21. Gallavardin: Anevrysmes des artères mésentériques, Gaz hebd. de méd. et de chir., 1901, vi, 973.

V 53
1909

In analyzing the symptoms presented by aneurisms of the superior mesenteric artery, it is soon discovered that there is nothing characteristic, and that but in few cases has the character of the swelling, which could be palpated, been definite enough to warrant a diagnosis of aneurism. The 2 cases observed by us ran a latent course, nothing developing which suggested aneurism. The patients frequently complained of paroxysms of abdominal pain, indefinitely localized, which we believe was caused by infarction of the spleen and kidneys. Koch's case, the first reported, presented no symptoms until rupture occurred. Some of the cases have been accompanied by paroxysms of excruciating abdominal pain. Duckworth's patient[22] complained of pain in the region of the navel which was so severe that he could not lie down, and his rest was seriously interfered with. Five days after this pain developed, pulsation could be noted in the region of the navel. In Baccelli's case the pain, coming on in paroxysms, was referred to the epigastrium. Whittier[23] reports an interesting case in which an aneurism of the superior mesenteric artery ruptured, dissecting between the layers of the mesentery until it formed a large hematoma in front of the left kidney. This patient complained frequently of severe abdominal pain, each paroxysm being associated with collapse and an enlargement of the palpable mass in the abdomen. All these symptoms were apparently due to fresh hemorrhage from the aneurism. Abdominal pain referred to the umbilicus was probably the most important clinical feature of the cases observed by Jacobson, Duckworth, Baccelli, Whittier, Rehn (reported by Stern)[24] and Gabriel.[25] In 4 of these cases (Duckworth, Baccelli, Rehn and Gabriel) a mass situated close to the navel, usually a little to the right and below, could be palpated. In the case reported by Whittier, mentioned above, the mass which followed rupture of the aneurism developed in front of the left kidney and dissected downward toward the left iliac fossa. In 2 of the cases (Duckworth, Baccelli), the swelling pulsated, the pulsations being characteristic enough to warrant a diagnosis of aneurism.

In but 2 of the cases collected by Gallavardin were there pressure symptoms. In the case reported by Wilson the aneurism compressed the common bile duct, causing jaundice, while in the case observed by Burney Yeo, the aneurism compressed the renal vessels, uremia presumably developing as a consequence. In none of the cases has there been sufficient interference with the circulation to cause necrosis of the intestinal wall.

While the clinical picture of these aneurisms is not characteristic, severe epigastric pain, associated with the development of a mass to the right of and below the navel, in a patient suffering with endocarditis should always arouse suspicion of an aneurism of the superior mesenteric. Unless a definite expansile pulsation were present, usually not the case, it would be impossible to exclude metastatic abscess of mesenteric lymph nodes.

Aneurisms of this type never become very large. The aneurisms of the superior mesenteric artery (Figs. 4 and 5) were about the size of a small hickory-nut, the brachial aneurism the size of a goose-egg. The case reported by Osler, in which one of the aneurisms was as large as a billiard-ball, is probably the largest embolomycotic aneurism observed. The pulsating hematomas formed after rupture of the sac, as in the gluteal aneurism observed by us and in the superior mesenteric aneurism reported by Whittier, became very large, in the latter case filling almost the entire half of the abdomen. These cannot, of course, be included, when speaking of the size of the aneurism.

The fact that these aneurisms tend to remain small or rupture before they attain to any great size accounts for the fact that they cause so few symptoms when situated upon abdominal or cerebral vessels, the symptoms of hemorrhage associated with rupture often being the first indication of the existence of an aneurism.

BACTERIOLOGY

Eppinger was the first to demonstrate bacteria in the wall of the aneurism, and to show the bacteriologic relationship between the vegetations on the heart valves and the clot in the aneurism. He found groups of micrococci occurring singly or in groups, but did not go further in their identification. Buday,[26] in his case, made cover-slip preparations from the endocardial vegetations and thrombus and found in each streptococci, staphylococci and the *Bacillus pyogenes fatidus*.

Twelve cases have been reported in which a careful bacteriologic examination has been made of blood from the general circulation or from the aneurismal sac. In 6 cases the streptococcus has been isolated, in 5 the staphylococcus. In the case reported by Gabriel streptococci were found in the sac and staphylococci in the circulation. In 1 case the bacillus of influenza was found in the vegetations.

In 2 of the cases observed by us blood cultures made by Dr. E. C. Rosenow revealed the pneumococcus. In 1 of these the cultures were positive but once, and it was impossible to cultivate bacteria from the aneurism, although both streptococci and pneumococci were demonstrated in the blood obtained at autopsy. In the third case staphylococci were isolated from the blood.

Holst[27] reports a case of aortitis with two aneurisms, probably due to the gonococcus, as the lesions developed during a gonorrheal arthritis. It is not stated, however, whether the gonococcus was recovered from the aneurisms or blood.

Patients suffering with aneurisms of this type are apt to be in a critical condition and will not survive a long operation or one associated with much dissection. It must be remembered that the aneurism frequently contains bacteria and that any operation on the tissues adjacent to and composing the aneurism may so reduce their resistance as to cause infection and secondary hemorrhage. The popliteal aneurism observed by Tufnell, one of the earliest cases reported, was evidently cured spontaneously. In Goodhart's case, a brachial aneurism was evidently cured by digital compression applied for seven hours. The patient soon died, however, with the symptoms of cerebral hemorrhage. The brachial artery and, later, the femoral artery were ligated in the case observed by Langton and Bowlby,[28] with good results, but the patient died later of complications associated with endocarditis.

In Canon's case[29] the external iliac artery was ligated for a femoral aneurism, but soon after a brachial aneu-

22. Duckworth, Dyce: Infective Endocarditis, Med. Press and Circular, 1901, cxxii, 625.
23. Whittier: A Dissecting Mesenteric Aneurism, Boston Med. and Surg. Jour., 1887, cxvii, 446.
24. Stern, K.: Operation eines Aneurysma embolo-mycoticum einer Mesenterialarterie, Beitr. z. klin. Chir., 1908, lvii, 315.
25. Gabriel, G.: Zur Diagnose des Aneurysma der Arteria Meseraica, Wien. klin. Wchnschr., 1901, xiv, 1051.
26. Buday: Aneurysmen der Arteriæ iliacæ communis, verursacht durch einen septischen Thrombus, Beitr. z. path. Anat. u. z. Allg. Path., 1891, x, 187.
27. Holst: Article Reviewed in Deutsch. med. Wchnschr. Literatur-Beilage, 1901, p. 107.
28. Langton, J., and Bowlby, A. A.: Mycotic-Embolic Aneurisms, Brit. Med. Jour., 1882, ii, 1022.
29. Canon: Bacteriologische Blutbefunde bei Blutvergiftung und Amputation, Mitt. a. d. Grenzgeb. d. Chir. u. Med., 1902, x, 411.

rism developed, for which proximal ligation was performed, the patient dying ten days later. In one of Libman's cases (a femoral arteriovenous aneurism) the external iliac artery was ligated in two places and divided with the intention of tying the femoral artery below the sac. Resection of the lower end of the sac was attempted, but it was perforated and profuse hemorrhage ensued, necessitating ligation of both the femoral artery and vein. The patient died a few hours later. In another case reported by Libman (operation performed by Lilienthal), the aneurism was incised, the clot removed and the cavity packed. Fifteen days later hemorrhage occurred from the aneurismal sac, which was controlled by packing. Twelve days later the femoral artery was ligated, the hemorrhage having been found to come from a small rupture in the wall of the artery. Six days later the patient died of pneumonia.

The brachial aneurism observed by us was treated by proximal ligation under cocain anesthesia. Clinically, the result was perfect. The gravity of the prognosis is indicated by the fact that the patient lived but seven months after ligation of the artery, which is the longest time that any patient operated on for an embolomycotic aneurism associated with endocarditis has lived.

Cathcart reports an interesting case of an aneurism of the femoral artery, which developed during typhoid fever. We have classified this as an embolomycotic aneurism, as we believe it to be due to lodgment of bacterial emboli in the vessel wall. He attempted a Matas operation, but the hemorrhage through the recurrent circulation was so severe that the femoral, the deep femoral, the superficial circumflex iliac, the superficial external pudic, the external iliac, the deep epigastric and the deep circumflex iliac arteries all required ligation. Gangrene later developed and an amputation was performed at the junction of the upper with the middle third of the thigh.

In three cases operations have been performed for aneurism of the superior mesenteric artery. In two of these (Libman, Baccelli) the operation has been merely exploratory. In the case reported by Stern (operation by Rehn) the diagnosis of metastatic abscess had been made, but the operation revealed an aneurism of a branch of the superior mesenteric artery. The branch on which the aneurism had developed was ligated and the cavity of the aneurism packed. The patient made a good recovery, but six weeks later another operation was performed for a second aneurism of the superior mesenteric artery. During the operation the abdominal aorta was opened, necessitating ligation. The patient died shortly after leaving the table.

We believe that in aneurisms of this type proximal ligation of the artery is the operation of choice in all cases. Injury of the tissues associated with a Matas operation would favor infection and secondary hemorrhage.

NOTE.—In addition to the writers already cited, the following may be found of interest on the subject:

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Simonds, M.: Ueber Hirnblutung bei Verrukoser Endocarditis, Deutsch. med. Wchnschr., 1901, xxvii, 353.

Von Büngner, O.: Ueber eine sogenannte Spontänruptur der Arteria femoralis mit Aneurysmabildung bei einem 17-jahrigen Knaben, Arch. f. klin. Chir., 1899, xl, 312.

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FIELD TRAINING OF MILITIA SURGEONS

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The thorough systematic training which has been given to officers of the army during recent years, in the various service schools, and by the working out of field problems with troops, has undoubtedly greatly increased the efficiency of the army in all its departments, while the militia, having participated in many field maneuvers, has gained much valuable experience, which is rapidly transforming it into a valuable factor of the national defense.

There are so many things that can be learned only by experience, and so many features which are new, experimental and undetermined, in the modern development of the science of war, that it is only by practice under conditions simulating a war status, that our armies can keep abreast of the progress of the times and maintain the high standards of the past.

Practice under service conditions is as necessary to the various staff departments as to officers and men of the fighting line, and is much more difficult to secure.

While quartermasters and commissaries gain their required practice in all maneuvers, medical officers and the hospital corps have very little opportunity for special training except to a very limited extent, as in maneuvers their services have been required in the actual care of the men of their commands to which they are attached, and there is no time to attend lectures or to execute field problems of medical service appertaining to brigade or division movements.

In the large joint maneuvers the medical department could secure such experience only by the doubling of the present force of medical officers, one set to perform the necessary regimental service with the commands, and the other to carry out the suppositional first aid behind the firing line, with the service of the collecting, dressing and ambulance stations, and the transportation to the rear, etc.

It has been recently pointed out by Major Charles F. Mason,[1] Medical Corps, U. S. Army, that for active service medical officers must constitute 1 per cent., and the hospital corps 10 per cent., of the entire command, and it is evident from our recent experience that a proportion very near to this is necessary in large maneuver exercises, if the medical department is to perform complete service.

It is because of the small strength of the medical corps and the hospital corps that they have been unable to participate in the great benefits derived from maneuvers up to this time.

Their strength is everywhere too small. For example, the Ohio National Guard, with an authorized strength of 575 officers and 7,801 enlisted men, a total of 8,376, authorizes at present 53 medical officers and 236 hospital corps men. (I refer to Ohio simply because the

COMPOSITION OF OHIO NATIONAL GUARD

	Medical Officers.	Hospital Corps.
Infantry, 8 Regiments	32	96
Infantry (Col.), 1 Battalion	1	4
Artillery, 2 Batteries	2	4
Cavalry, 2 Troops	2	4
Engineers, 1 Battalion	2	8
Signal Corps, 2 Companies	2	4
Division Headquarters, One	3	7
Brigade Headquarters, Two	2	6
Field Hospitals, Two	10	114
Ambulance Companies, Two	6	154
Total: 62 medical officers and 401 hospital corps men.		

1. Mason, C. F.: Seaman Prize Essay, Jour. Mil. Serv. Inst., U. S., January and February, 1909.

V 53
1909

statistics in that state are available to me. Possibly the same conditions exist in other states.) Mason shows that the army is far short of its desired quota.

The accompanying list of organizations composing the Ohio National Guard shows the number of medical officers and hospital corps to which they are entitled under "Field Service Regulations."

The entire present force of hospital corps, therefore, is not sufficient to man the two hospitals and two ambulance companies properly, according to regulations, leaving out of consideration entirely all the regiments and other organizations enumerated above.

The desired proportion, according to Mason's estimate, would be still larger, being 83 medical officers and 830 hospital corps men.

If we had the increase to that provided by "Field Service Regulations," we could carry out all the details of the service of the medical department with all troops, not only caring for those actually sick, but simulating also the complete service in the rear of the fighting lines.

In the absence of this desired increase of the personnel, the medical department can do little at a maneuver camp except to operate the regimental infirmaries and to conserve the hygiene of the camp and of the men of the command as far as time will permit.

In order to work out their own field problems pertaining to their own department, their only opportunity will be found in the special "Camps of Instruction for Medical Officers," such as were established this year for the first time, these being separate and distinct from the maneuver camps. To secure the benefit of these camps of instruction requires medical officers to perform two separate tours of camp duty, once with the troops to which they are attached, and again in their own special medical camp of instruction.

The question naturally arises whether it is better to have a small, insufficient force and to use it twice, or to create the proper strength to be used once. In active service the full force is necessary; why not provide it now? Many medical officers of the militia cannot afford the time to attend two separate camps.

The creation of three such camps this year enabled 170 militia medical officers, from forty states, to engage in field work such as they had never been able before to practice, and to attend lectures and demonstrations on every detail of their duties in the camp and in the field, their tour of instruction proving of incalculable benefit to all those who were privileged to attend.

While it is to be regretted that only 170 militia medical officers out of the 700 in the United States attended these schools, and that twenty-five states out of the forty sent only three or less, fourteen sending only one, those who did attend are a unit in expressing their appreciation of the value of the practical instruction received and it can be taken for granted that such schools in the future will be crowded to their capacity.

These schools were held at Antietam, Md., Sparta, Wis., and San Francisco. Those at Antietam and Sparta were in operation four weeks each, instructing two classes each two weeks, that at San Francisco having one class of two weeks.

My personal knowledge relates only to the camp at Sparta during its first course of instruction, July 15 to 28, inclusive. Forty militia medical officers were in attendance, 17 from Indiana, 11 from Ohio, 7 from Michigan, 3 from Illinois, and 1 each from Wisconsin and Mississippi. The camp was located at the western end of a tract of land comprising about 2,700 acres, recently purchased by the federal government for use as an artillery maneuver and target practice camp, about six miles southeast of Sparta, Wis., on the main line of the Chicago, Milwaukee & St. Paul Railway. Three batteries and the headquarters of the Fifth U. S. Artillery were in camp and were engaged in target practice and field work daily during our tour of duty.

Our camp was adjacent to that of the artillery, and for the purpose of our instruction consisted of a complete field hospital of 108 beds, with twelve ambulances, a pack-mule train, and about eighty riding horses. The personnel consisted of ten medical officers of the medical corps, U. S. Army, with about ninety hospital corps men, comprising Company "A," Hospital Corps, from Fort D. A. Russell, Wyoming.

The first day was occupied in arranging quarters, becoming acquainted with each other, and in a critical study of the field hospital arrangements and the details of its management.

On the morning of the 16th the routine work of the school was begun and continued every day without intermission, except on Sundays, to the 28th.

Major T. S. Bratton, Medical Corps, U. S. Army, lectured every day from 8 to 10, making a careful and systematic study of "Army Regulations," the "Manual of the Medical Department," and "Field Service Regulations," as applying to the medical service, considering, in regular order, the laws applying to the organized militia, care of property, accountability and responsibility, duties of post surgeon, the handling of quartermasters' and ordnance property pertaining to the hospital and in possession of hospital corps men, the management of commissary matters, hospital fund, descriptive lists, requisitions, invoices, receipts, hospital charges, savings, rations, record of examinations and assignment to duty, internal economy of hospital, register and record of sick and wounded, sales, purchases, care of property, reports and returns, inspections, muster and pay rolls, discharges, final statements, disability certificates, "line of duty," enlistments, orders, death of soldier, regimental surgeon, regimental hospital, infirmary, ambulance company, field hospital, stationary hospital, brigade surgeon, division surgeon, base hospital, chief surgeon on lines of communication, duties and authority of medical officers, and concluding with the making out of various papers. Major Bratton possessed the faculty of making the subjects interesting and attractive.

Few militia surgeons realize that an intimate knowledge of all these subjects is necessary to them. They study regulations only superficially, if at all, and dread paper-work, the so-called "red tape," simply because they are not acquainted with it. The making of correct records and the proper use of official forms is requisite to the proper protection of the interests of patients under their care, as well as of hospital corps men under their command.

Major W. E. Purviance, Medical Corps, U. S. Army, lectured in the afternoons from 2 to 4 on matters of hygiene and sanitation, both of the camp and of the individual, selection of camp sites, water-supply, cooking, diet, food, drink, bathing, inspections, disposal of wastes, latrines, earth-closets, incinerators, crematories, filters, typhoid fever and other contagious diseases, and physical examination of recruits, with demonstration of such examination. The Conley incinerator, the Lewis and Kitchen incinerator, and the Chamberland and Darnell filters, and the Forbes-Waterhouse water-sterilizer were exhibited in operation and fully explained.

On three days all were engaged in the execution of field problems under the direction of Major P. C. Fauntleroy, Medical Corps, U. S. Army, the commandant.

The first of these, on July 19, was the most extensive, calling for the performance of the work of the medical department of a division of nine regiments, engaged in an attack on the enemy, requiring the establishment of regimental collecting stations, brigade dressing stations, and a division ambulance station, an imaginary field hospital being located in the rear.

The militia officers were assigned as division, brigade and regimental surgeons, mounted hospital corps orderlies furnished; and with the umpires, consisting of the medical officers of the army, and accompanied by ambulances, escort wagon, and a pack-mule train, reached the field of operations after a dusty ride of four miles.

The proper positions being taken in the rear of the division of the army, "Forward" was sounded by trumpet, and all advanced through the woods, fording a stream, and encountering swampy land and almost impassable underbrush, until the cleared land was reached where casualties were to be expected.

U. S. Army pack mule, showing "Arapaho" packed with Varney camp stove, axes, and food chest.

Here the collecting stations were established, following which the dressing stations were located and orders transmitted to the ambulance station to send forward the personnel and equipment for their establishment, which being done, the ground was cleared by chopping down trees to secure space, two tents were erected, an operating table extemporized, beds prepared, instrument cases, medicine chest, and food chest opened in readiness, and a fire started to make coffee and beef-tea.

In the afternoon following this problem a discussion and criticism of the work took place under the direction of Major Fauntleroy, chief umpire, participated in by Capt. C. C. Whitcomb, U. S. Army, and Capt. F. A. Dale, U. S. Army, and various militia officers, in which errors were pointed out, and suggestions made as to improvement of the plan and equipment.

Discussion arose as to whether the ambulance station should not be a brigade unit rather than a division unit, and the opinion was expressed that for carriage on pack-mules the food chest was too large and unwieldy.

The following day (the 20th) all the militia officers were again mounted, and acted as observers in the establishment of a regimental hospital near camp and a dressing station on a hill a mile distant, all the equipment for the complete regulation dressing station, consisting of tent, bedding, medical chest, surgical dressing box, food box, commode chest, stove, buckets, axes, kegs of water, extra litters, etc., being carried on four pack-mules.

Following this the method of packing on pack-mules was exhibited, the construction of the "Arapaho" explained, the method of tying the "diamond hitch" with the lariat, improvised travois constructed, the Varney camp cooker displayed, and instruction given in saddling, mounting and riding horses.

On the 26th field work was again engaged in, the militia officers being assigned as regimental and brigade surgeons, and given details of hospital corps men, with whom search was made through the woods for wounded, represented by tagged hospital corps men, these being given treatment in accordance with the diagnosis on their tags, and removed in ambulances to the camp hospital, where the dressings and extemporized splints were examined and criticized by the umpires, and many valuable suggestions made. It was most interesting to note the ingenuity shown in the treatment of many of these cases.

After this there was hospital corps drill in loading ambulances, carrying by one and two bearers and by litters, and placing wounded men in the saddle.

The regular inspection of the hospital corps, on the 24th, was also studied by the militia officers.

An extremely important element of instruction was derived from observation of the routine operation of the camp, and the actions of officers and men; their careful and exact performance of every detail of sanitary precaution; the constant attention to cleanliness about quarters, kitchens, and at the picket lines; the extreme care given to disposal of wastes and filth; the quiet, orderly and prompt performance of every duty—in short, the magnificent regular army discipline and thoroughness.

As a result of the attention given to sanitation, of course, the camp was free from sickness. All excrement, all urine, and all garbage and refuse being consumed in the incinerators, and all manure dropped at the picket lines being at once removed and burned, it followed that there were very few flies, notwithstanding the fact that in our camp and that of the artillery there was a total of over 400 horses and mules.

Such object-lessons excite admiration and the desire of emulation.

During all lectures, demonstrations, and execution of field problems, the various instructors continually urged the militia officers to ask questions regarding any matters which were not entirely clear, and much valuable data were thus brought out.

All the officers of the army were at all times most courteous, affable, and patient, and the most friendly relations existed.

The foregoing exhibits briefly the extent and scope of the work of instruction provided at this school. The benefits derived from it by all the militia officers who were so fortunate as to participate in the work are enormous and beyond calculation.

The time allotted, two weeks, is all too short for work of such magnitude and variety of detail.

Realizing, however, that few doctors in civil life can afford to devote a longer time to such a camp, in addition to their regular tour of duty with the organizations to which they are attached, I am of the opinion that much of the work done at this camp might profitably be

V 5
1909

accomplished in a preliminary or preparatory course by correspondence or other satisfactory means, thus leaving the two weeks of camp for the more advanced work, the practical field maneuvers, hospital management, command of men, etc.

A scheme providing a progressive course of training in the preliminary branches of the work, covering six months or more, and requiring a certain degree of proficiency to entitle one to the privilege of attending the two weeks of camp of instruction, should meet with great favor among medical officers of the militia, especially if at the satisfactory conclusion of the entire course some special record of honor was awarded to those who had attained proficiency.

In the absence of such course of training, I would urgently recommend that when another such school of instruction is provided by the War Department every medical officer should be required to attend.

In addition to this, it is imperatively necessary that all medical officers be supplied liberally with the blank forms used by the army, in order that they may become properly acquainted with their use.

Not only do they need each an ample stock of the new cards and other forms of the medical department, but they should have at least a sample set each of many pertaining to the ordnance, commissary, quartermasters, and pay departments—in fact, all that would be required by a company commander or a surgeon in command of a post hospital of the army, as any medical officer is liable to detail at any time to a post where a thorough knowledge of their use is necessary.

RECOMMENDATIONS

1. Medical officers should be increased 50 per cent. and the hospital corps 100 per cent.
2. Training in field service should be provided for the medical corps and the hospital corps.
3. A progressive course of training, covering six months or more, should be provided, to be completed by attendance at a camp school of instruction.
4. Attendance at such school should be permitted only to those who attain proficiency in the preliminary work.
5. The retaining of a commission as a medical officer should be dependent on participation in such systematic course of instruction.
6. Medical officers in states not represented this year should at the next similar opportunity insist on their rights, and not allow their portion of the available fund to be given to their state team at Camp Perry, as occurred in one state in the northwest this year.

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Correction of Displacement of Uterus Through Inguinal Canal. Single Incision.—Littauer describes a technic which he has applied in twenty-six cases, with satisfactory and durable results, to shorten the round ligaments by access through the inguinal canal after a single incision through the soft parts. In order to accomplish this the laparotomy incision must be in the form of a curve except in the middle of the fascia which are incised horizontally across; on the sides the fibers of the internus can be easily separated, after which the inguinal canal is readily reached by working down with the finger or a sponge between the external and internal oblique muscles. The round ligaments are then treated as with the ordinary Alexander-Adams operation, the peritoneum sutured, the fascia sutured separately, and the round ligament included in the suturing of the external fascia. His communication in *Sammlung klin. Vorträge* reviews other technics while citing the special advantages of the arc incision in combination with the isolated separation of the fibers of the fascia of the externus for the inguinal celiotomy.

Clinical Notes

A NEW DEVICE FOR DROPPING ETHER AND CHLOROFORM

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I believe that the device herein described and illustrated meets the need for a small, simple, conveniently portable instrument for dropping ether and chloroform (the former especially) continuously on the inhaler mask, the dose being perfectly and easily regulated, and the rate of drop changed any instant without removing the dropper.

This device is composed of a can (Figs. 1 and 2) with regulating mechanism for outlet, tubes for air inlets, and a screw cap for filling. The can is made in half-pound (250 gm.) and quarter-pound (125 gm.) sizes, which have proved the most convenient ones. At the side of this can, near the top, is an opening for outlet (1 c, Fig. 2). Into this opening extends a cone-shaped valve (2, Fig. 2), which is moved into and out of the opening by the finger by means of a lever (5) so arranged that it is convenient for the forefinger of the hand of the operator to remain on it (at 5 c) continu-

Fig. 1.—Dropper for ether and chloroform.

Fig. 2.—Cross-section of dropper.

ally; thus the operator can at any second change the size of the outlet and thus vary the rate of drop from a strong stream to a slow drop or stop it completely by a mere movement of one finger and without removing the dropper from over the inhaler mask. The can is fitted with a screw cap (7) of large opening so that it can be quickly filled. On the side opposite to the outlet are placed two small tubes (8 and 9, Fig. 2) for the inlet of air. One tube has its external opening at top of can (1 d) and terminates near the bottom of the can on the inside. The second tube enters the bottom of the can (at 1 e, Fig. 2) and opens into the can at its top. This prevents the contents from running out if the can is turned on either end, and also allows the vapor generated by the warmth of the hand to escape by one tube while the outlet is closed without forcing liquid out of the can. The screw (5 b) in the lever is adjustable so that the lever always remains where placed, thereby relieving one from the necessity of holding it continuously if it is so desired. If the small hooks with springs are placed over the air inlets and the lever hook closed, the can may be filled and carried in the instrument bag for days without loss. Thus the dropping can may be filled at the office and carried to a private home ready for use.

The can is so arranged that it is conveniently held (Fig. 3). The operator's right elbow rests on the table beside the patient's head and the can is held in proper

position above the inhaler mask with perfect ease. The rate of drop is properly regulated and the anesthetic is allowed to drop continuously, which is far better and safer than the common method of flooding the inhaler mask at intervals and allowing the liquid to evaporate, the patient breathing pure ether vapor and more or less pure air alternately. This dropping device can be instantly regulated so as to maintain a proper degree of continual anesthesia. When in the beginning the patient vomits, struggles or has a spasm of the glottis, any one of which requires more anesthetic, the finger instantly moves the lever and a proper amount is allowed to fall on the inhaler mask; then the flow may be gradually allowed to return to the proper amount without any extra movements, as of setting the can down, pulling cork, etc.

Fig. 3.—Dropper in use.

The claims for this can are as follows:

1. It is safe for the patient because the anesthetic is continuously given and readily regulated.
2. It is small and uncomplicated and, therefore, may be easily carried to a private home or hospital.
3. It is easy to operate, inexpensive, and economical of ether because no excess is poured on at intervals.
4. It drops fast when rapid flow is desired and the flow can be shut down suddenly.

APPARATUS FOR METABOLISM EXPERIMENTS IN MALE INFANTS

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The difficulty of obtaining 24-hour amounts of urine, and the total amount of feces, separately, in babies explains why so few metabolism experiments have been performed during the first year of life. Schabad recently described[1] all the kinds of apparatus which have been used with varying success up to date. The article is very exhaustive and includes his own among other apparatus. These devices are either cumbersome, or difficult to make and procure, and I venture to describe a very simple apparatus which I have used successfully during the past year in collecting the total amount of urine and feces passed by male babies during periods of three days each.

1. Arch. f. Kinderheilk., 1908, vol. xlviii, 5-6.

The necessary materials are a small Bradford frame, a towel, two cloth straps each 12 or 14 inches long by 1½ inches wide, safety pins, an ordinary test tube of good glass, zinc oxid surgeons' plaster, and a rubber tube; also a bottle in which to collect the urine, and several wide-mouthed jars in which to collect the feces. The Bradford frame is used because it is easy to handle, and most well-trained nurses are familiar with its use. It is supported on the bed in such a way that it is level and is elevated about six inches above the mattress. The two ends may rest on boxes or rolled-up sheets.

A hole (Fig. 1, A) about three inches in diameter is cut through the cloth of the frame so that it will come under the baby's buttocks; below this the jar in which the feces are collected is placed. A few inches lower down another small hole (Fig. 1, B) about one-half an inch in diameter is cut. The tube through which the urine flows runs through this hole with a gradual but continuous downward incline into a bottle hanging at the side of the bed. The towel (Fig. 1, C) is pinned transversely across the frame with two rows of pins so that the part of the towel attached to the frame is a little narrower than the breadth of the baby's back. The baby is then placed on the towel and the ends are folded over the abdomen and pinned, thus making an abdominal band which extends from the axillæ to just above the groins. This is fastened snugly enough to prevent the body from slipping to either side, and the upper edge is close under the armpits to keep the child from slipping downward.

The toes of the stockings are attached to the frame with the legs partially extended, the upper part of the stocking being pinned to the shirt. These stockings are rather loosely knit and act like bags which hold the legs. Two cloth straps (Fig. 1, D) are pinned transversely across the shoulders for greater security in certain cases. The baby is then in a position so that the buttocks remain over the large hole (Fig. 1, A) in the frame, and yet he is not confined enough to prevent a certain amount of exercise, because the legs are only partially restrained and the arms and head can move freely. Babies and children with tuberculosis of the

Fig. 1.—General view of the frame used for collecting excreta of male infants. A, hole over which buttocks come; B, small hole through which tube leading from penis is passed; C, towel fastened to frame and which confines the child's trunk; D D, two cloth straps to be pinned transversely across shoulders.

V 53
1909

spine are often held in this manner without apparent discomfort for weeks at a time.

The next problem was to devise a method of collecting the urine. This was done by taking an ordinary test-tube and heating it over a Bunsen burner in such a way that the middle of the tube gradually dropped in; then it was drawn slowly out until shaped as shown in Figure 2. It was then filed at (a), the lower end broken off and the broken edges fire-polished. Such a tube is strong and light and can easily be attached to the penis by straps of surgeons' plaster, while the lower end is connected with a rubber tube leading through the hole (Fig. 1, B) to the urine bottle. Before attaching it the penis should be well covered with boric-acid ointment to prevent maceration of the delicate skin. The bottle should be well washed out with an alcohol solution of thymol to prevent putrefaction.

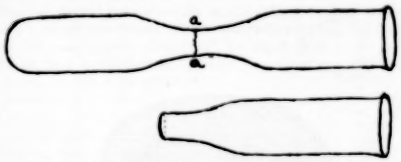

Fig. 2.—Showing method of drawing out heated test-tube so as to encase the penis.

This simple apparatus is very practical because most nurses are familiar with the use of the frame as well as the test-tube. It is light and strong when properly made and there is small chance of losing any of the required excretions. Like all such apparatus, it is open to the criticism that it restricts motion, yet in a small series of selected cases I have seen very little discomfort and no harm from its use.

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UROLOGIC TEST-TUBE HOLDER

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This instrument is intended to lessen the difficulties encountered in collecting urine during ureteral catheterization, especially when catheters are retained for long periods, as when testing the functional capacity of each kidney.

Figure 1 shows the holder; the only dimensions noted are those of the opening for receiving test tube, its diameter being ¾ inch. The two projecting prongs are springs; by compressing these, tubes of smaller size may be employed.

Figure 2 shows the test-tube holder in position, and also a metal tent frame (a) constructed of brass, consisting of a center piece 2 inches broad, 24 inches long, and 1/12 inch thick, supported by legs 3/16 inch in diameter and 36 inches from tip to tip, with brass knobs on ends so as not to tear the bed-clothes. The legs being composed of brass, can be easily bent so as to cover persons of varying sizes.

The advantages of this instrument are:

1. When existing pathologic conditions demand general anesthesia, the specimens are not apt to spill nor the catheter to become displaced during the unconscious movements of the patient, and one nurse can readily control the patient if the holders are applied and the knees tied with a broad band of muslin.

2. By additional use of the metal tent frame, the rate, quantity and character of the flow from each catheter

Fig. 1.—Urologic test-tube holder.

can be observed easily by lifting the covers without fear of disturbing the test tube or greatly exposing patient.

3. In employing the test for indigocarmin and phloridizin, the urine must be frequently observed, small quantities taken from receiving receptacle. The ease with which one tube can be substituted for another greatly facilitates this operation.

4. In collecting specimen for microscopic or bacteriologic examination, as in tuberculosis, etc., the possibilities of contamination from outside sources are entirely obviated, since the same centrifuge tube is used to collect as will be employed in centrifugalizing specimen or making culture.

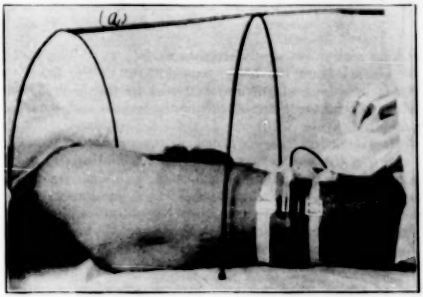

Fig. 2.—Test-tube holder in position; showing also the metal tent frame.

Medical Inspection of Schools in Germany.—Medical inspection and supervision of schools is perhaps more thorough and extensive in Germany than in any other country. Yet even in Germany the system is not complete or uniform. According to the statements of Consul G. N. Ifft (*Public Health Reports*, Oct. 15, 1909), the number of pupils placed under the charge of one physician varies from 1,400 to 22,000, and the salaries from $22.50 to $500 a year. In two cities there are school dentists and in Charlottenburg orthopedic gymnastics are to be given in the schools. The work of the school physician is usually incidental to his general practice. The total pay is determined by the number of classes examined and in Nuremberg amounts on the average to $190 a year. Three examinations of each pupil are required during the first year of school. These are designed to test the fitness of the pupil for the work of the school and consist of a preliminary examination for admission, a second thorough physical examination, and a third in which special attention is directed to the eyes and ears.

A SAFETY-PIN SPRING PROBE RETRACTOR

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KANSAS CITY, MO.

In the operation for fistula in ano, when the method of excision with the immediate suture is employed, a self-retaining guide is of considerable value, as it renders the services of an assistant unnecessary.

For several months I have been using the simple little instrument here illustrated, which I have found very handy and practical. It is about six inches in length and four inches wide and is made of heavy steel wire, silver-plated. There are no joints or hinges, and the instrument can easily be sterilized.

Safety-pin spring probe retractor.

The method of application is as follows: The probe is released from the hook, passed through the fistulous tract into the rectum, and fastened in the hook again. Then, by taking hold of the handle, the fistulous tract and wall can be firmly held while the diseased tissue is dissected out *in toto*, threaded on the probe.

Owing to the hook and spring resembling those of a safety-pin the name of "the safety-pin spring probe retractor" has been suggested for the appliance. The cheapness, simplicity and effectiveness of the instrument all are points greatly in its favor.

916 East Eighth Street.

A NEW TONSIL KNIFE, WITH GUARD AND RETRACTOR ATTACHMENT*

DANIEL W. LAYMAN, M.D.
INDIANAPOLIS

Dr. Ballenger's clear description of "Tonsillectomy with the Scalpel" and numerous papers by specialists recommending thorough tonsillar enucleation have stimulated men in the use of the knife. This method is advocated as the quickest and most thorough of all procedures. Some of the most skilful users of the knife say that with this instrument the ideal enucleation of the tonsils is accomplished.

Fig. 1.—Tonsil knife, with guard and retractor.

Like many who use the tonsil knife, I have felt the need of something to guard and retract the anterior pillar, without interfering with the movements of the knife, and without necessitating the use of another instrument in the hands of an assistant.

In a great many cases the anterior pillar overlaps a large portion of the anterior surface of the tonsil. Even after freeing this pillar and pulling the tonsil inward with the tonsil forceps, it is often necessary, in using the knife, to retract the anterior pillar with the flat side of the blade to hold it out of the way, in order to dissect the tonsil at the point of attachment. The use of the side of the knife as a retractor not only interferes with the proper dissection of the tonsil, as there must be a constant retracting force exerted on the pillar to keep it out of the way, but also greatly increases the chances of injuring the delicate muscle of the anterior pillar. Hence I have tried to devise a tonsil knife with a pillar retractor and guard attachment.

The retractor and guard attachment is a blunt, flattened hook adjusted to the side of the knife, and having a lengthwise movement parallel with the knife and also a limited movement in the cutting plane. Such movements are made possible by adjusting to a tonsil knife, between base of blade and beginning of handle, an oblong loop or guide, whose plane is at right angles both laterally and transversely with length of knife. This loop, with the shank of the knife, forms two parallel slots through which is passed the retractor, and which

Fig. 2.—Tonsil knife in use.

not only limits the retractor's movements in the cutting plane, but also steadies it. The shank of the retractor works through the right or left slot of the aforesaid loop, as the operator may place it. The retractor's lengthwise action is controlled by a set-screw. The retractor being slotted, in its long aspect is guided or held by this screw, which engages the knife at that part of the handle nearest to shank of blade.

The knife is best adapted to the sitting posture. The tonsil is first freed from its attachment to the anterior pillar by suitable separators. In most of my cases, after

* Read in the Section on Laryngology and Otology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

V 53
1909

engaging the tonsil with the tonsil forceps, I dissect around the upper half of the tonsil or head, with Kyle's right-angle tonsil knife. In case the plica tonsillaris covers a large portion of the tonsil, I also make an incision at its junction with the anterior pillar. I then regrasp the tonsil, engaging a greater part of the upper part in the tonsil forceps. Then the knife with the guard and retractor attachment comes into play. With the retractor adjusted so that it is freely movable, and the angular blunt hook pulled toward the point of the knife, I insert it behind the pillar.

In cutting downward or upward, as the operator desires, the guard or retractor retains its position, between the tonsil and pillar, as the cutting blade moves forward. Thus the operator can use a great deal of force in retracting the pillar. Besides, the pressure exerted against the pillar by the guard steadies the hand. Especially is this true of the left hand. I never trusted myself with a tonsil knife in the left hand until I used the one with guard and retractor attachment.

This tonsil knife, equipped with guard and retractor attachment, has been used only in a limited number of cases, as the first model was made only last month. The results, however, have been encouraging, and I am convinced that when I use the tonsil knife in the future it will be one equipped with guard and retractor attachment.

My excuse in offering it on such limited experience is that I thought the opportunity presented itself at a meeting where a symposium on the faucial tonsils was to be one of the chief features. The instrument may be obtained from V. Müeller & Co., Chicago.

Newton-Claypool Building.

A CASE OF PHENOL-POISONING

MONTE STERN, M.D.
SOUTH ST. PAUL, MINN.

S. T., aged 32, Roumanian, was brought into my office in a condition of collapse, with pulse weak and thready, extremities cold, and consciousness almost lost. A cold sweat bathed his body. A hasty examination disclosed burns of the first degree extending from the wrists halfway up both forearms. Vigorous stimulation caused a good reaction from the shock, but within three minutes the patient became very much cyanosed, with labored and stertorous breathing. The respirations at this time went to 56 per minute. The pupils were dilated and reacted very sluggishly to light. The pulse remained strong and was of good volume and tension, but the cyanosis increased to an alarming degree. A slight convulsion manifested itself at this time. More vigorous stimulation was resorted to, with the result that after ten minutes of impending dissolution the patient began to improve. He was now hurried to the hospital, where he remained in a semiconscious condition for three hours, with respirations 26, pulse 80, and temperature 99. Convalescence from this point was uneventful. The urine was cloudy, acid in reaction, brown in color and had a specific gravity of 1.009. Albumin disappeared on the fourth day.

Investigation showed the burns to have been caused by pure phenol applied twenty minutes before the patient was seen. The patient told us that he had applied the phenol to cure a skin eruption and that he felt no pain until five minutes after its application, when the pain became unbearable.

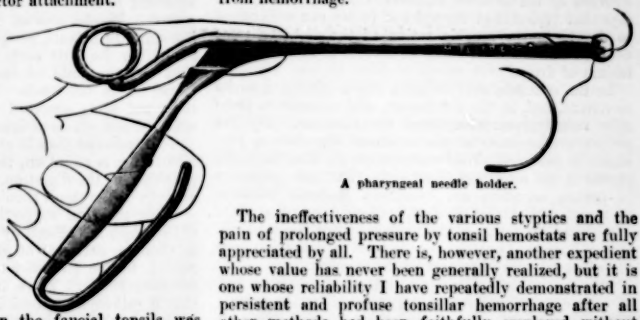
I believe that the primary shock was caused by the pain of the burn and that the condition following was due to the toxic action of the phenol absorbed through the skin.

A NEW PHARYNGEAL NEEDLE HOLDER

DESIGNED ESPECIALLY FOR SUTURING THE TONSILLAR WOUND AFTER TONSILLECTOMY

JOHN O. McREYNOLDS, M.S., M.D., LL.D.
DALLAS, TEXAS

With the substitution of complete tonsillectomy for the simpler but inadequate tonsillotomies of former years there must necessarily develop an increasing danger from postoperative hemorrhage. That the extirpation of the tonsil involves greater responsibility is generally recognized, and we are now concerned with the adoption of such methods as will minimize the risk from hemorrhage.



A pharyngeal needle holder.

The ineffectiveness of the various styptics and the pain of prolonged pressure by tonsil hemostats are fully appreciated by all. There is, however, another expedient whose value has never been generally realized, but it is one whose reliability I have repeatedly demonstrated in persistent and profuse tonsillar hemorrhage after all other methods had been faithfully employed without avail. This consists simply in suturing firmly the tonsillar wound to a sufficient extent to close up all denuded bleeding areas. This may require from one to three sutures, according to the nature of the case, and the stitches may include simply the two pillars of the fauces or they may include within their grasp the tissues at the base of the tonsillar excavation. The suture material which I have found best is a large size of black braided silk. The needles which have proved most satisfactory have been of the Hagedorn variety and of the size and curvature shown in the illustration.

But the factor of by far the greatest importance in the prompt and easy introduction of the sutures is the needle holder. After trying all of the usual forms of needle holders I was led to devise the one here illustrated.

The handle must be so placed that the hand of the operator is always out of the field of vision. The instrument should be able to hold the needle firmly without the use of a lock because it is essential to release the needle quickly after it has penetrated the tissues so that with the same instrument the point of the needle may be grasped immediately and pulled through before the gagging of the patient can dislodge the needle. The grasping surfaces of the instrument should be provided with notches or grooves so that the Hagedorn needles with large eyes can be easily maintained in any desired position. The grasping surfaces at the distal end should present a concavity so that a curved needle may be securely held without incurring the risk of being broken, which would at least be an embarrassing accident in the midst of an operation on a throat filled with blood.

Therapeutics

CONSTIPATION

This condition is so frequently present in American people, and is so generally neglected or treated simply with laxatives and purgatives, often to the future detriment of the patient that, though often considered, we cannot too frequently discuss its proper management. Dietetic mistakes are so often the cause of constipation that a better understanding of the action of different foods on the alimentary canal is necessary properly to treat or manage constipation. As constipation is not always due to imperfect peristalsis, but often is due to impaired intestinal secretion, and as the various kinds of foods stimulate more or less the intestinal secretions, Lafayette B. Mendel, of New Haven, professor of physiologic chemistry at Yale, in a paper read at the last meeting of the American Therapeutic Society (*American Journal of the Medical Sciences*, October, 1909), well says that "the skilled therapist of to-day can well afford to devote to the specific action of the diet the same detailed consideration which he accords to his armamentarium of drugs."

In the stomach, acid is but a slight stimulant to its secretions, but, in the duodenum, acid stimulates, probably reflexly, secretion from the pancreas. By the proper performance of the duodenal digestion a substance is produced called secretin, which stimulates the glands of the intestines to activity. The best promoters of gastric secretion are "dextrins, maltose, dextrose, proteoses, and extract of meat." Mendel says that these stimulants are active at the pyloric end of the stomach, and a hormone, gastrin, is liberated which stimulates the whole secretory function of the stomach.

Nervous influences on gastrointestinal secretion are, of course, well understood. Perfect digestion cannot take place if the patient is suffering great worry or enduring mental frets, or when there is an unpleasant environment, or if non-appetizing food is presented to a patient suffering from intestinal indigestion and constipation. Therefore, a handicap of such surrounding conditions, or associated conditions, must be recognized, and they must be removed if possible.

The mental condition being improved and the food being well prepared and tastefully presented, Mendel's practical dietary facts should be remembered, as the better the digestion the less the constipation. He says that bouillon or meat soup taken early in the meal reaches the pylorus and duodenum and incites a flow of gastric juice. The dextrins and maltose of toasted bread and zwieback act similarly. The increased stomach secretion thus brought about acts as a stimulant to the pancreas and the liver, and plenty of pancreatic juice and bile is the result. Fats and especially oils inhibit the gastric secretion, and this dietary knowledge should be utilized when it has been decided that there is a hyperacidity or an abnormal amount of hydrochloric acid in the stomach; but when there is insufficient gastric secretion, fats and oils should be forbidden.

Varying amounts of acidity in the gastric contents either promote or inhibit the proper opening of the pylorus and the proper discharge of the stomach contents into the duodenum. Mendel says that foods which tend (like proteins) to combine with acid and diminish the free hydrochloric, or (like fats) to repress acid secretion, will delay the discharge from the stomach. When normal acid contents accumulate at the pylorus and are normally discharged into the duodenum, the reflex causes sufficient outpouring of bile to neutralize or render the contents of the duodenum alkaline, and besides this normal aid to intestinal digestion the bile is a stimulant to peristalsis, and intestinal activity is improved. An insufficient acidity of the stomach tends to promote fermentation and may allow intestinal putrefaction to occur. It is also possible, under lessened acid secretion of the stomach, that food may be regurgitated from the duodenum into the stomach. Hence the stomach secretion, especially the hydrochloric acid, being subnormal, fats and oils should certainly be prohibited as tending to make the condition worse.

While it is recognized that intestinal flora may be changed by the administration of certain drugs and possibly by lactic-acid ferments, it is well recognized that radical changes in diet will also change these intestinal conditions, and not only adults but especially infants may have such maldigestions, without objective symptoms, such as diarrhea, as to cause chemical mistakes sufficient to rob the body of necessary elements for its growth. Mendel says an improper amount of fat in the intestines in infants, or fat that is improperly absorbed, may allow the fatty acids to form soaps of calcium and thus rob the child of its necessary lime, which then passes off in the stools. The normal amount of lime, then, not being absorbed into the blood may allow an acidosis, with all its serious symptoms.

This indicates that in all cases of malnutrition, before medication is relied on, the kind of food taken and the character of the digestion, and a more or less thorough analysis of the stools should be made.

Other practical suggestions on the action of food in the stomach are offered by Carl A. Hedblom and Walter B. Cannon, professor of physiology in Harvard Medical School, Boston (*American Journal of Medical Sciences*, October, 1909). These investigators have determined that if carbohydrate food is thinned by adding ordinary amounts of water the rate of the exit of the food from the stomach is not changed, while adding an ordinary amount of water to protein food in the stomach makes the discharge into the intestines more rapid. Hard particles of food retard the evacuation of the stomach into the intestines, while coarse, branny foods leave the stomach quicker than similar foods of finer texture. An abnormal amount of gas in the stomach always delays the passage of food into the duodenum. Whether food is taken hot or cold does not seem to make any material difference in the rapidity with which the stomach contents are discharged into the duodenum, but food with normal acidity in the stomach is passed on much quicker than when the contents of the stomach are hyperacid.

These investigators have also shown that irritation of the colon with croton oil notably retards gastric discharge and delays the movements of food through the small intestine. This experimental fact should be constantly clinically recognized, viz.: that any reflex irritation, from chronic appendicitis, chronic abdominal pain, neuralgic or inflammatory, will inhibit the gastrointestinal digestion, and until the cause of such irritation is removed the digestion will be imperfect and constipation persistent.

Dr. L. M. Gompertz, of New Haven, presented a paper to the American Therapeutic Society at its last annual meeting (*American Journal of Medical Sciences*, October, 1909) in which he discusses the cause of constipation and his treatment without drugs. The length of time from the ingestion of food to the expulsion of the residue of that food from the rectum, Gompertz finds, in thirty individuals, to average from twelve to fifteen

V 53
1909

hours. In other words, the habit of normal man to have a movement of the bowels in the morning seems physiologically correct to expel the residue of the food of the day before. Certainly, any delay beyond this twenty-four hours would seem non-physiologic and to be a condition that must be actively treated.

Gompertz recognizes two forms of constipation, the atonic and the spastic. The fragmentary, or expulsion of small pieces of feces, he believes to be a part of the spastic form of constipation. The atonic type of constipation he believes is due to an atony of the muscles of the large intestine, and this is usually induced by the over-use of purgatives. He also recognizes that the primary cause of constipation may be an over-absorption of the fluid portions of the contents of the intestines, which would deprive the intestines of residue of sufficient bulk for the musculature to actively contract on it. In the atonic form of constipation the stool is hard and dry, and its caliber may be very large. There is no pain or much increased flatulence, although after such a condition has been in evidence for years, and especially when strong cathartics have been taken, a catarrhal condition of the intestines may develop, there may be fecal impactions, and scybalous deposits may cause local inflammations.

The other cause of constipation is due to a hypertonicity of the musculature of the intestines, which causes spastic constipation. In this form there is usually flatulence and a catarrhal condition of the intestine; spasm of the transverse colon occurs, causing retention of firm masses of feces with resulting fermentation. Colic and pain become frequent symptoms, and in severe cases large amounts of mucus may be passed. In spastic constipation the rectum usually remains empty, except during actual defecation, while in the atonic variety the rectum is more or less persistently filled. In this spastic form of constipation the size of the movements is very small, and they may be even ribbon-shaped.

The systemic disorders that may occur from a constipated habit may be acute, but are likely to be insidious; in fact, it is astonishing how harmless constipation apparently seems to be to some individuals. On the other hand, it is a demonstrated fact that chronic liver inflammation, chronic kidney inflammation, perhaps arterial disease, and certainly mental sluggishness, are conditions that can be, and are, caused by constipation and its consequences. The mental apathy, muscular debility, general malaise, and bad feelings which are so often attributed to malaria or biliousness are frequently entirely due to absorption of toxins from the intestines caused by constipation.

Imperfect stomach digestion due to dietetic errors is perhaps the most frequent cause of constipation, and here a correction of the food is of vital importance and vastly better treatment than the resort to purgatives or even laxatives. Hyperacidity of the stomach Gompertz finds a frequent cause of constipation, and high nervous tension and the eating of too large amounts of meat are probably frequent causes of this hyperacidity. The necessity for physical exercise in those who lead too sedentary a life is, of course, recognized, but such exercise is not frequently enough ordered.

It is probably frequent that not sufficient water is taken by the patient, and, on the other hand, that the fluid contents of the intestines are too rapidly absorbed. In either case, the advantage of weight and gravity is lost and the advantage of bulk for the intestines to act on is lost, the dryness and stickiness of the fecal matters is increased and the ability to expel them is diminished. To overcome such a condition Professor Lafayette B. Mendel advises the ingestion of a substance that will hold water in its meshes, and such a substance is agar-agar. The theory suggests, and the fact demonstrates, that when agar-agar is ingested and becomes mixed with fecal matters in the lower intestine, that it, retaining water, makes the fecal masses more bulky, more watery, more pultaceous, and hence of a consistency that is easily propelled and expelled. Agar-agar also fortunately resists bacterial decomposition.

Gompertz experimented with agar-agar as an addition to the diet of thirty patients who were suffering from constipation, the age of these patients varying from 15 to 83 years, and the majority of them being unable to have a movement of the bowels without the aid of drugs. The agar-agar was taken in the morning and evening, beginning with 15-gram (half-ounce) doses, and in most instances was eaten with milk or cream, the same as a breakfast food. In all but two of these thirty patients regular movements of the bowels began after the agar-agar had been taken from one to three days. After regular movements of the bowels had been established, the agar-agar was in most instances gradually reduced in amount. The duration of the treatment was from one to three months.

The agar-agar should be prepared in granular form, i. e., ground up fine, and can be eaten as a powder with cream or milk, as suggested, with the addition of sugar or salt to suit the taste. Such agar-agar was prepared by a local druggist.

Certainly any recommendation, either from a regulation of the diet or a change in the habits of the patient, or the addition of some simple article to the diet as suggested, that cures constipation, should be looked on as a distinct advance in treatment of this obstinate condition.

As another dietary suggestion in the treatment of constipation, Dr. Anthony Bassler, of New York (*Dietetic and Hygienic Gazette*, September, 1908), recommends the following laxative food for children who are afflicted with constipation:

BRAN GEMS

2 cups of bran.
2 cups flour.
1 cup milk.
¼ cup molasses.
½ teaspoonful baking soda (dissolved in hot water).
½ teaspoonful butter.
½ teaspoonful lard.
Salted to the taste.
Bake in a slow oven for forty-five minutes.

Bassler suggests that little children eat several of these gems after coming home from school in the afternoon, as he finds that they have a pleasant laxative effect.

A method of treating constipation other than by drugs has lately received considerable approval, viz., oil injections into the rectum. A soft rubber catheter may be inserted three or four inches up into the sigmoid flexure, the patient lying on his left side, and then from 100 to 150 c.c. (3 to 5 ounces) of warm sweet oil is injected by means of a fountain syringe. This oil should be retained, if possible, over night, and if the movement of the bowels in the morning is not satisfactory a small saline enema may be administered. This oil injection should be repeated daily for a week, then every other day for two weeks, and then once or twice a week for some period of time. The treatment in instances of dry feces and sluggish activity of the rectum is many times successful, and this treatment is again far in advance of the continued administration of cathartics and laxatives.

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[For other information see second page following reading matter]

SATURDAY, NOVEMBER 27, 1909

THE PATHOLOGIC ANATOMY OF CHRONIC ALCOHOLISM

In stating the causes of almost all the chronic, non-infectious diseases, it is a time-honored custom of the texts to include alcohol; and generally it is given a prominent place along with syphilis, followed at a respectful distance by gout and lead. Consequently the student comes to consider that not only is cirrhosis of the liver a usual result of alcoholism, but that nephritis, myocarditis, arteriosclerosis, and sundry disorders of the central nervous system also are commonly caused by it. The pathologist whose experience lies with the outcasts of great cities, however, knows well that the most alcoholic of his subjects are often free from nearly all, if not all, of these indurative processes, just as he observes that old prostitutes may show no evidences of inflammatory disturbances in the pelvis. On account of the common misconception of the anatomic changes produced by chronic alcoholism, it is worth while to consider just what conditions are and what are not found in the bodies of habitual drunkards.

In the city of Hamburg, as in other large and active seaports, there die annually many wanderers and outcasts brought low by drunkenness. At the last meeting of the German Pathologic Society there was reported by Fahr a series of three hundred and nine autopsies performed at the *Hafenkrankenhaus* (harbor hospital) of Hamburg on victims of chronic alcoholism, dying from either alcoholism alone or from other causes, no less than ninety-eight being suicides. In nearly all the cases the alcohol had been taken in the form of spirits, not as beer or wine. The results of these autopsies are distinctly not in harmony with the conception that alcohol is a poison which produces wide-spread and gross anatomic changes throughout the body, or that it is a common cause of either arteriosclerosis or nephritis. Even cirrhosis of the liver is far less common in alcoholics than it is usually supposed to be, for, of the three hundred and nine cases, in but eleven was cirrhosis the cause of death; in two other bodies there was an advanced cirrhosis, but death was due to some other cause. Of one hundred cases of cirrhosis in which autopsies were performed by Simmonds in Hamburg, alcoholism could be excluded in fourteen; in sixty it was evident, and in twenty-six there was no reliable information as to alcohol; therefore it must be concluded that, while only a very small proportion of drunkards suffer from cirrhosis (about 4 per cent.), there are not a few cases of advanced cirrhosis which are not due to alcoholism, although alcohol is responsible for far more than a majority of all cases of cirrhosis. On the other hand, in nearly every case of habitual drunkenness the liver shows fatty changes, usually severe, but not ordinarily associated with connective tissue increase; and this is by far the most frequent change in alcoholism. Next to the fatty liver in frequency, and probably much more important in its effects, comes chronic leptomeningitis, which was present in about half the cases. Fatty infiltration of the heart wall was present in 30 per cent., and chronic gastritis in 20 per cent. On the other hand, chronic nephritis caused the death of but eight of the three hundred and nine drunkards, and nephritis was found much less frequently among the alcoholic subjects in the harbor hospital of Hamburg than in the hospitals which receive patients of better habits. So, too, arteriosclerotic changes were certainly no more, and apparently somewhat less common and extensive among the bodies of alcoholics than among those of non-alcoholics of corresponding age. It would, therefore, seem unjustifiable to consider that alcohol, even when used in great excess, is of itself a common cause of either nephritis or arteriosclerosis.

It is a striking fact, and one familiar to pathologists, that a large proportion of deaths in chronic alcoholism occur without any anatomic alteration being found which is adequate to account for the death; this was the case in seventy-one of the three hundred and nine autopsies studied by Fahr. In such cases the fatty liver is almost invariably present, frequently chronic leptomeningitis, chronic gastritis, and fatty infiltration of the heart; but nothing to explain the sudden deaths, unless some are caused by failure of the fatty heart. Fahr suspects that changes in the ganglion cells of the heart may be responsible for the sudden heart failure, but as yet no anatomic proof has been forthcoming to support this hypothesis. It is interesting to note that protracted feeding of alcohol to guinea-pigs and rabbits failed to cause the fatty liver and other anatomic changes that are common in man, but the animals showed the same tendency to die suddenly and unexpectedly.

GOVERNMENT COOPERATION FOR IMPROVING THE PHARMACOPEIA

Few, if any, public health measures are of more direct importance than efficient regulation of the purity and identity of widely recognized medicaments and reasonable regulation of their use or, at least, restriction of their abuse. To secure a fuller appreciation of the uses and limitations of drugs is to benefit the public at large as well as to advance the development of the science of medicine.

It is gratifying, therefore, that the United States Public Health and Marine-Hospital Service has recognized the importance of drugs and drug standards in

V 53
1909

public health work and is now cooperating in a practical way with the Committee on Revision of the Pharmacopeia to improve our standards for drugs and to promulgate a knowledge of the true values or shortcomings of official medicaments. Our readers will, no doubt, be interested in the series of bulletins constituting a "Digest of Comments on the Pharmacopeia of the United States of America," which, by request of the Board of Trustees of the United States Pharmacopeial Convention, is now being compiled and published under the direction of the Surgeon-General of the United States Public Health and Marine-Hospital Service. The first of these bulletins[1] contains considerable material bearing directly on the shortcomings and needs of the Pharmacopeia. It indicates very well the degree of faithfulness with which the present Committee on Revision of the United States Pharmacopeia has adhered to the general principles or instructions of the Pharmacopeial Convention. It also shows the compliance, or rather lack of compliance, with the protocol of the Brussels Conference for the unification of formulas for potent medicaments, and thus further emphasizes the need that medical practitioners should interest themselves in a practical way in the making of the Pharmacopeia which they are to follow, if for no other reason than to keep fully abreast of the advances in medical science abroad.

Apart from the criticisms on the scope and the contents of the United States Pharmacopeia, and in addition to the material of a purely chemical or pharmaceutical nature, this bulletin contains much that will interest physicians generally. Thus, the references to the present-day use of the several drugs will be found a fair indication of the usefulness of certain medicaments, while the references from homeopathic and eclectic medical journals indicate some of the fallacies of sectarianism in medicine. They also appear to bear out the oft-repeated assertion that in the application of really useful medicaments there is no essential difference between the graduates of the several schools.

The present work is essentially a continuation of the "Digest of Criticisms" on previous revisions of the United States Pharmacopeia formerly published by the Committee on Revision through its Chairman, the late Dr. Charles Rice, and largely compiled by the late Hans M. Wilder. This was of inestimable value in connection with former revisions of the Pharmacopeia. The present series of "Digest of Comments" will, no doubt, be equally useful to the Committee on Revision to be elected at the forthcoming Pharmacopeial Revision Convention. Physicians generally, and delegates to the Pharmacopeial Revision Convention particularly, who wish to familiarize themselves with the needs of the Pharmacopeia of the United States will find much in this bulletin that will interest them and suggest profitable lines of activity.

1. Digest of Comments on the Pharmacopeia of the United States of America (Eighth Decennial Revision), for the Period Ending Dec. 31, 1905. Bull. 49, Hyg. Lab., U. S. P. H. and M.-H. S., Washington, pp. 295.

THE PERSONAL EQUATION IN MEDICINE

The theory of medicine, as of all other sciences, has often been affected by the personal equation—that constant error to which each individual is subject to a greater or less degree. Each observer, though he may be able to see facts clearly and even to trace the relation of cause and effect among them to some extent, is liable to error in the interpretation of those facts in proportion to the degree of his fixed personal bias, whether that personal bias be in favor of a widespread belief or merely of a little private theory of his own.

That acute observer of human nature, Rudyard Kipling, in a recent story,[1] creates a significant and not essentially improbable illustration of the workings of the personal equation in medical theory.

A practitioner of medicine who is likewise a devout believer in astrology (so runs Kipling's tale), in the days of the Great Rebellion in England, comes into a little village which is being devastated by the plague. He exhausts all the resources of the medical art of his time in vain; the people continue to despair and die. The physician, therefore, resolves to take counsel of the stars, through which he learns that the patroness of the pestilence is our Lady of Ill Aspect, the moon; and that the only hope for the dying people lies in the aid of the sun and the planet Mars. By chance the astrologer-physician sees some rats staggering and dying in the moonlight; and the idea of a connection between the rats and the plague flashes across his mind—not, indeed, that he for a moment entertains the idea that the rats carry contagion, but that, being creatures of the night and, therefore, of the moon, the rats must be parties to the sidereal conspiracy of which the plague is the outcome. So the doctor brings his patients away from the dark holes and hovels where they have been languishing, and takes them into the sunshine and fresh air—not because fresh air and sunshine are good in themselves, but because the influence of the sun, being opposed to that of the moon, is the proper one to seek. He organizes a war of destruction against the rats; and in the process of extermination all the dark, filthy places in the village are made light and clean—not, of course, because such a procedure is hygienic, but because it invites the favor of the sun and lessens the unfavorable influence of the moon. He causes the holes of the rats to be filled with slag from the village smithy—because the horse is a martial animal, and Mars is a favorable planet. The people are aroused from their apathy and terrified inertia by the tasks set them and the renewed hope held out to them; the village is cleansed and made hygienic; the rats are destroyed and the plague vanquished. The physician, regarded with adoration by the grateful people of the village, with becoming humility ascribes all merit to the favorable stars.

1. A Doctor of Medicine, Delineator, October, 1909.

Now, we may smile at the fanciful idea that the modern expedients of killing rats and rendering dwellings sanitary to rid a community of plague, if successfully practiced in the seventeenth century, might have strengthened the belief of physicians and laymen in astrology. There is food for a few moments' sober reflection, however, in this imaginative glimpse into the past.

Prejudice and prepossession did not die with the belief in astrology, nor are they the exclusive possessions of the ignorant in our own time. Science may warn against the error involved in the personal equation, but cannot destroy it, even where scientists are concerned. The danger is ever to be guarded against that some unsuspected factor—some idea which has taken possession of the mind unquestioned and whose sway has been taken for granted, like the belief in astrology in the mind of Kipling's physician—may prevent us from attaining some truth that waits near at hand to be discovered, like the age-long relation between infectious diseases and the filth in which they are bred and the noxious creatures by which they are conveyed.

WORTHLESS DRUGS

An important part of the work of the Council on Pharmacy and Chemistry is the investigation of non-proprietary drugs with the object of determining whether they are of sufficient value to be included in New and Nonofficial Remedies. These non-proprietary remedies are of two kinds: those recently introduced and those which, while in no sense new, are not to be found in the Pharmacopeia because they were considered as of little or no value. Drugs of the latter class are periodically resurrected and, by enthusiastic reports, made to all intents and purposes, "new" remedies. As Sollmann has said,[1] "The physician who is impressed by these reports naturally desires some unbiased and reliable information about them, as well as about the remedies which are actually new. The ordinary reference books, however, give but very scanty data; they necessarily lack the elasticity which is essential for the proper presentation of a new subject. Above all, a physician who desires to try these new remedies should be assured that they are of a uniform quality; but with them there are no established standards of any kind."

In the case of proprietary articles the Council has not required, as a condition of admissibility to New and Nonofficial Remedies, that their therapeutic value shall be demonstrated, but only that no grossly exaggerated therapeutic claim be made for them. Non-proprietary substances, on the other hand, have been admitted only when they appeared to possess positive medicinal value. This policy has resulted in the rejection of a considerable number of drugs, mainly from indigenous American plants, which have been used to some extent, but for which no definite therapeutic value has been shown. Since many of these drugs are made the essential ingredient of proprietary mixtures for which grossly extravagant claims are made, the Council has prepared several short articles to show on what basis the claims for the value of these non-proprietary drugs rest. In most cases it appears that such claims are based on reports of clinical experience and observations by untrained and little-known men. In these articles the Council has frequently found it necessary to refer to reports of little or no scientific value; in fact, these references, together with the lack of any available data from prominent medical authors, indicate the paucity of real evidence in regard to these drugs. Even the so-called clinical evidence is in many cases shown to be, not the honest expression of enthusiastic though incompetent observers, but rather of the nature of "patent medicine" testimonials or paid write-ups.

In the Pharmacology Department, in this issue, appears the first article of this series. It deals with echinacea, a drug which is the chief constituent of a number of nostrums for which ridiculous claims are made, and the article shows in a striking manner on what feeble evidence the asserted virtues of the nostrums containing this drug are based. In subsequent issues reports will appear on other non-proprietary drugs of doubtful value which form the prominent constituents of innumerable nostrums.

1. Sollmann, Torald: The Broader Aims of the Council on Pharmacy and Chemistry, THE JOURNAL A. M. A., July 18, 1908, li, 237.

THE ATTEMPT TO DEGRADE THE SANITARY SERVICE AT THE ISTHMUS

Any doubt that an attempt is being made to degrade the Sanitary Department at the Isthmus is removed by the letter of Mr. Mann to the Bureau of Legislation, printed in the Department of Correspondence in this issue, and by a study of the bill now pending in Congress, to which that letter relates. The bill in question (H. R. No. 5155; S. 601), now in committee at both ends of the Capitol, was introduced almost simultaneously, in the House, by Mr. Mann, of Illinois, and, in the Senate, by Mr. Crawford, of South Dakota. Its printed title is "A Bill to provide for the government of the Canal Zone, the construction of the Panama Canal and for other purposes"; but it ought to read: "A Bill to provide for the appointment of one director, one chief engineer and one governor and to subordinate the chief sanitary officer to any one or all of these officers." That, at least, is the meaning of the bill when divested of all ambiguity, a meaning that becomes obvious when, in Section 3, Paragraph 3, it is proposed to dispose of the whole situation at the Isthmus by appointing the three officers first mentioned as the heads of coordinate departments, with no more mention of the Sanitary Department than if it did not exist. If this department is not specifically included in the list of designated departments it is excluded; and if it exists and is excluded, it

must become subordinate to something that is included. This is a very old legislative ruse and one that is obviously brought into requisition at this time for the same old purpose of putting the country to sleep while a measure to which the people would naturally object is quietly rushed through Congress.

That the people in general will object to this measure when they realize what it means is a safe assumption. That the medical profession in particular will firmly but insistently oppose it, now that its hidden design has been made apparent, is a certainty. And that the antagonism in both instances will be based on the soundest reasons becomes apparent the moment certain salient facts in the history of the Isthmian project are taken into account. Thus, it will be recalled, when the Government took over the Panama enterprise, now something over six years ago, it was very generally recognized that the French had reduced the feasibility of moving the dirt to a demonstration. But it was recognized with even more unanimity that the one remaining barrier to success was the sanitary control of conditions that had defeated every former attempt by converting the Isthmus into a veritable Golgotha.

In this emergency every eye turned as by a common impulse to Colonel William C. Gorgas, Medical Corps, U. S. Army, who, by virtue of his sanitary triumph over Havana, stood as the one man for this herculean task. It was known, however, that he had been able to succeed in Cuba only because he had been given an absolutely free hand by his military commandant, General Leonard Wood, who, being a medical man as well as a soldier, had the special intelligence necessary to comprehend the situation. And it was furthermore recognized that Colonel Gorgas must have a similarly free hand in order to be equally successful in Panama. Physicians in every part of the country accordingly petitioned President Roosevelt to make him an actual member of the commission on a footing of equality with the other members. This request, however, was not complied with, and Colonel Gorgas, who was to solve the problem on which the success of the whole enterprise depended, was designated as "Chief Sanitary Officer," with a status "subordinated in the seventh degree below the actual head of executive authority."

The result of this action was brought to the attention of the country by the report on Isthmian Canal Sanitation by Dr. Charles A. L. Reed.[1] It was there shown that the Sanitary Department, in consequence of that action, was hampered in everything that it undertook; that it was subjected to the most annoying infringements on what from the start ought to have been recognized as its exclusive prerogatives; that red tape impaired its efficiency; that presumptious interference by ill-informed superiors hampered its progress; and that its moral and educational force on the Isthmus was lessened by its position as an underlying service. The furor excited by this revelation was followed by the reorganization of the commission. Colonel Gorgas was made a member of that body as he ought to have been at the start. He was given authority to report direct to the chairman of the commission, just as other heads of departments were authorized to report. This somewhat tardy change made the Sanitary Department a coordinate instead of a subordinate branch of the Isthmian organization, and that is the satisfactory status which it occupies to-day.

While occupying this position and largely as a result of the freedom of action thus vouchsafed to it, the Sanitary Department of the Isthmian Canal Zone has achieved results that to-day not only command the applause of the civilized world, but that have resulted in the selection of Colonel Gorgas, the chief of that service, as the official head of the organized medical profession of America. Yellow fever, the perennial dread of the tropics, has been banished; malaria, the real pest of the Isthmus, has been reduced to a minimum; the bubonic plague had been challenged at the portals and denied a foothold; devastating endemics have been made things of the past; disease-breeding centers have been abolished; the cities of Panama and Colon—the control of which by the Sanitary Department, stipulated by treaty, is another reason why it should not be subordinated to any other department—these cities, once pestilential, have been made salubrious; while as a natural result of the fact that disease and death are no more common there than in many cities in the states, a sense of security has been imparted to the more than forty thousand persons to-day employed in the zone, and the success of the enterprise has thus been assured. And all of this has been and is being done in a land previously so dangerous to human life that it had become a byword and a reproach among the nations of the world. In the face of this matchless record, the proposition to degrade the service by which these results have been achieved—to place it back in the position of underling in which it was first placed—will come as a shock to the people.

The statement now made by Congressman Mann that "it is not possible to have good government on the zone with a lot of different heads" is, of course, thoroughly disingenuous. If there is to be only one head, then why does his bill designate three heads? And if three heads, why not four? And if not four heads, why not subordinate some department besides the one on which, without disparagement to others, is the very one on which the success of the whole enterprise depends? Then, too, has there not been good government in the zone with sanitation in the hands of a coordinate rather than a subordinate department? In short, has anything on the Isthmus come as near "making good" as the Sanitary Department? The people have so far voted hundreds of millions of dollars for the canal and they stand ready to vote as many more as may be necessary to complete it. But they insist and will insist not only that the money shall be judiciously expended, but that the whole enterprise shall be so safeguarded that, by the

1. THE JOURNAL A. M. A., March 11, 1905.

humane protection of life and health, there will be some prospect of its ultimate completion.

It may be asserted, without fear of successful contradiction, that nothing has so contributed to public confidence in the ultimate success of the canal as the achievements of its Sanitary Department. The American people now demand that that department be left with freedom of action, that its efficiency be promoted rather than hampered, and, finally, that Congress treat it with the consideration befitting its demonstrated efficiency, its well-earned honor and its justified dignity.

MANSLAUGHTER AND HYPNOTISM

In some countries there are laws prohibiting public exhibitions of hypnotism. There should be such here. The traveling exhibitors who make their living by making fools of their fellow beings are not useful members of society. There is, in the first place, a peril in submitting oneself to another's will; and that is what the subject generally understands he is doing, though it is not by any means necessarily the fact. Another more immediate danger is shown by the recent occurrence in New Jersey—a possible direct danger to the life of the subjects. Especially is this true of such demonstrations as are reported to have been made in the case referred to, in which the operator stood on the rigid body of his subject, supported only by the head and feet. Such a performance is not suitable for a public exhibition, and we cannot think of any good reason why it should be for a private one. It may be true that it is often done without harm, but the autopsy findings in this case, as given through the press, strongly suggest that it was the cause of death. Public exhibitors of hypnotism may take the trouble to ascertain the physical fitness of their subjects, but we believe that this is rarely done, and many ugly possibilities show up on consideration of the subject. Leaving out of account the common belief which has sometimes manifested itself in our courts, that hypnotism may be responsible for involuntary crime, it is an abnormal condition and should not be too freely induced —certainly not without good reason.

Medical News

ILLINOIS

Personal.—Dr. Everett H. Butterfield, formerly director of the Ottawa Tent Colony, has been made medical director of the Buffalo Rock Sanatorium for the Treatment of Tuberculosis, Ottawa.——Dr. Henry E. Wagner, Chicago, has returned from Europe.——Dr. Adolphus P. Standard, assistant surgeon at St. Francis Hospital, Macomb, has resigned and will take charge of the new Graham Hospital at Canton.

State Supplies Free Antitoxin.—The State Board of Health announces that the refined and concentrated diphtheria antitoxin, which it supplies free of charge to all who need it in Chicago, is furnished by manufacturers operating under government license; that the antitoxin is of the highest quality and degree of purity, and in the opinion of the board, of higher potency than any serum in the market. In a recently-awarded contract, the unit of strength of antitoxin was as follows: 1,000 unit packages, 1,200 units per c.c.; 2,000 unit packages, 1,600 units per c.c.; 3,000 unit packages, 2,000 units per c.c.; and 5,000 unit packages, 2,500 units per c.c. The board expresses its belief that the appropriation of $8,000 per annum made for the free distribution of antitoxin in Chicago, will be sufficient to supply the needs of that city.

Chicago

To Aid Tuberculous Children.—The United Charities of Chicago, by the aid of a grant of $2,500 made November 15, from the Elizabeth McCormick Memorial Fund, will inaugurate an open-air school to be conducted in tents on the roof of the Mary Crane Nursery on Ewing street. At the outset, twenty-five children will be treated in the school.

Extensive Sanatorium Proposed.—At a meeting held in the Chicago Athletic Club, November 18, a plan was launched for the establishment of a large sanatorium near Las Vegas, N. M. It is proposed to purchase between 100,000 and 200,000 acres of land, comprising the old Valmore Ranch. When fully improved the institution will accommodate more than 1,000 patients. The sanatorium is to be exclusively for sufferers from tuberculosis who are not poor enough to accept state aid, but are unable to provide for the travel and care they need. An effort will be made to limit admissions to those patients, who in the best judgment of the examiners, give promise of a cure.

The Cost of Tuberculosis in Chicago.—The Department of Health, in the current issue of its *Bulletin*, gives the approximate cost of tuberculosis to the people of Chicago during 1908 as $23,335,190, distributed as follows: The money value of lives lost amounted to $19,571,950; the wages lost by the decedents amounted to $1,336,200; the cost of the illness of those who died, $707,040; the loss of wages of patients still living, $1,120,000, and the cost of illness of 10,000 living patients, $900,000. During the first nine months of the current year, 3,024 new cases of tuberculosis were reported to the department of health, equivalent to 136 per 100,000 of population. These new cases were distributed as follows: Business and factory wards, 482 per 100,000; poor residence wards, 188; fair residence wards, 158; good residence wards, 104; and semi-suburban wards, 87 per 100,000. This demonstrates that the cost of tuberculosis falls most heavily on the poorer people in the city.

KENTUCKY

Changes in Louisville Health Force.—The mayor has appointed Dr. William Ed. Grant health officer; Drs. Ezra O. Witherspoon and Griffin C. Kelly, assistant health officers; Dr. J. W. Fowler, superintendent of the City Hospital; Dr. Jesse I. Whittenberg, superintendent of the Eruptive Hospital; Drs. Heman Humphrey and Charles J. Rosenham, city physicians, and Dr. Fred L. Wilhoit, sanitary inspector.

Against Tuberculosis.—Articles of incorporation of the Kentucky Association for the Study and Prevention of Tuberculosis were filed with the clerk of Jefferson county, October 27. The object, as stated, is to encourage local associations for the study and prevention of tuberculosis. On the first board of directors are the names of Drs. Henry S. Keller, Louisville; R. W. Thompson, George P. Sprague, Lexington; Dunning S. Wilson, Louisville, and Jacob Glahn, Owensboro. ——The Lexington Antituberculosis Association, at its annual meeting, November 14, elected the following officers: Dr. George P. Sprague, president; Dr. Nathan R. Simmons and R. C. Ware, vice-presidents; Thomas Johnson, treasurer; Mrs. Claude Garth, secretary, and Mrs. Judge Lafferty, Dr. Thomas C. Holloway and Dr. Orrin L. Smith, executive committee.

MARYLAND

County Society Meeting.—At the annual meeting of the Washington County Medical Society, held at Hagerstown, November 11, the following officers were elected: President, Dr. DeWitt C. R. Miller, Mason and Dixon, Pa.; vice-president, Dr. William A. Quinn, Chewsville; secretary, Dr. Samuel M. Wagaman, Hagerstown; treasurer, Dr. Hamilton K. Derr, Hagerstown, and censor, Dr. V. Milton Reichard, Fairplay.

Personal.—Dr. Charles A. Wells, recently elected state senator from Prince George county, was tendered a reception by his friends at Hyattsville, November 13.——Dr. James H. Jarrett, Towson, has recovered from his recent illness.——Dr. Harry V. Harbaugh, East New Market, suffered severe burns on the face October 14, by the explosion of an automobile lamp.——Dr. William H. Fisher, of the staff of the Springfield State Hospital for the Insane, has resigned, and Dr. E. P. Harrison has been appointed assistant physician.——Dr. Joseph W. Reynolds, Cecil county, is reported to be seriously ill with disease of the stomach.

Health Recommendations.—The Commission of Hygiene and General Health has recommended to the governor an increase in the appropriation for the State Board of Health to allow for the extension of its work. He recommends that the work of the board be divided into five bureaus; that provision be made for the proper supervision of the water supply and

V 53
1909

sewerage; the creating of the office of sanitary engineer; the employment of sufficient draftsmen and inspectors, and the appropriation of $1,000 a year for the publication of a popular health bulletin.

Baltimore

Personal.—Dr. Frederick Taylor returned from Europe November 15.——Dr. Harry L. Homer has been made assistant physician of the Union Protestant Infirmary.——Dr. Ira Remsen, president of Johns Hopkins University, has been elected trustee of the Carnegie Foundation, vice President Eliot of Harvard University, retired.

MASSACHUSETTS

Needs of Infirmary.—At a meeting of the directors of the New Bedford Antituberculosis Association, held November 1, it was reported that there were twenty-four patients in the sanatorium of the association, and that three vacancies existed. Up to the present time, the amount pledged for the new sanatorium amounts to $20,500, and $7,000 is still needed before the buildings can be completed.

Woman's Hospital Opened.—The Free Hospital for Women, Brookline, was opened for inspection November 4. The institution has recently been much enlarged and improved. It is devoted to the treatment of diseases peculiar to women and is an entirely free institution. It has a present capacity of fifty-four beds which are occupied only by surgical patients. The medical staff is under the direction of Dr. W. P. Graves.

Infectious Diseases.—During September there were reported to the State Board of Health 466 cases of diphtheria, 105 of measles, 382 of scarlet fever, 491 of typhoid fever, 585 of tuberculosis, 13 of cerebrospinal meningitis, 47 of whooping cough, 46 of varicella, 9 of ophthalmia neonatorum, 2 of tetanus and 1 each of erysipelas, mumps, smallpox and trichinosis.

Endows Bed.—By the will of the late James Ingram, Lawrence, $5,000 is devised for the maintenance of a bed in the Lawrence General Hospital, to be named after the testator.

MISSOURI

Personal.—Drs. Byron N. Stevens, Chillicothe, and John L. Burke, Laclede, have been appointed pension examining surgeons.——Dr. Malcolm M. Campbell, Albany, was thrown from his buggy in a runaway accident recently, fracturing two ribs.——Dr. Frank B. Fuson, Springfield, has been appointed a member of the State Board of Health, vice Dr. Frank J. Lutz, St. Louis, term expired.

Licenses Revoked.—The license of Dr. Charles W. Hume, Columbia, was revoked for fifteen years by the State Board of Health, at its meeting in Jefferson City, October 21, on the charge that he had written prescriptions for liquor. No defense was made.——Dr. Joseph T. Bazan, Glasgow, is said to have had his license revoked by the State Board of Health.

School Inspectors.—The Health Commission of Kansas City has selected the following inspectors of public school pupils and buildings: Drs. Hasbrouck DeLamater, Scott P. Child, Archie N. Johnson, Jesse E. Hunt, E. F. DeVilbis, Eugene P. Hamilton, William J. Thompkins and Otho L. McKillip.

Dinner for Dr. McAlester.—The physicians of Columbia and members of the faculty of the University of Missouri are planning a dinner in honor of Dr. Andrew W. McAlester, formerly dean of the school of medicine. At the dinner a book will be presented to Dr. McAlester, containing autographs of his former students.

St. Louis

Personal.—Dr. Kenneth W. Millican has been appointed, by the Municipal Commission on Tuberculosis of St. Louis, editor of its bulletin.——Drs. Arthur H. N. Juengel and Melton, internes in the City Hospital, are ill with diphtheria.

New Hospital Staff.—At the request of the Alexian Brothers' Hospital of St. Louis, the St. Louis University has named the following staff: Dr. Charles H. Neilson, physician and chief of staff; Dr. John W. Marchildon, genitourinary department; Dr. Major G. Seelig, surgeon; Dr. Carroll Smith, assistant surgeon; Dr. William W. Graves, neurologist; Dr. Albrecht Collasowitz, oculist; Dr. Otto L. Von der Au, laryngologist; Dr. Ralph L. Thompson, pathologist, and Dr. George C. Crandall, consulting physician.

NEW HAMPSHIRE

State Sanatorium.—The State Sanatorium for the Care and Treatment of Tuberculosis received its first patients September 14. The following official examiners have been selected up to date: Drs. Samuel R. Upham, Claremont, N. H., John D. Proctor, Keene, and Miah B. Sullivan, Dover. The rate of board is $10 per week. Any applicant who is unable to pay the board rate will be referred to the State Board of Charities and Corrections, which will fix the rate to be paid. When in full running order, the sanatorium will accommodate from thirty-five to forty patients. It is situated on the side of Mount Moosilauke, an elevation a little more than 1,600 feet. The buildings in the institution consist of a two and one-half story administration building containing dining room for patients, physician's office, laboratory, sitting room and quarters for the employees, and two detached ward buildings with wide piazzas, and rooms sufficient to accommodate all the beds. Dr. P. Charles Bartlett, Warren Summit, is the superintendent, and he will examine patients at the office of Dr. Wheat, Manchester, on the first and third Tuesdays of each month, between 11 a. m. and 1:15 p. m.

Personal.—Dr. Noel E. Guillet has been elected president of the Manchester Medical Society, vice Dr. Walter T. Crosby, resigned.

NEW YORK

Want Hospital Pensions.—The conference of medical superintendents and managers of state hospitals, together with the members of the State Lunacy Commission, have decided to favor legislation at the coming session of the legislature to provide for an increase of about 20 per cent. in the salaries of attendants and nurses in the state hospital service. A paper was presented recommending that annuities be paid not only to employees but also to members of the medical staffs of state hospitals if they retire after twenty-five years' service. This proposition was endorsed by the conference and a committee was appointed to confer with the lunacy commission in the drafting of necessary legislation.

Wishes to Maintain Sanatorium.—The Metropolitan Life Insurance Company has caused to be filed with the clerk of Albany county, a writ of certiorari in the matter of its application to the state superintendent of insurance for approval of plans to buy land on which to maintain a tuberculosis sanatorium, and in which the superintendent denied the application. In its papers, the insurance company asserts that the superintendent of insurance has power to pass on the application, holding that it is a proper purpose for a company to conserve its assets by cutting down its death rate.

Health Officers Effect Organization.—At the ninth annual conference of sanitary officers of the state, held in Rochester, November 11 and 12, organization was effected, and the following officers were elected: President, Dr. Robert Simpson, Jr., Volney; vice-presidents, Drs. Robert M. Andrews, Bergen, and David M. Totman, Syracuse; secretary, Dr. Montgomery E. Leary, Rochester; and treasurer, Dr. William Stanton, Webster. One officer from each county will report proposed laws and rules for adoption at the next conference.

Personal.—From the list of examiners of the State Board of Medical Examiners, which appeared in THE JOURNAL, November 13, page 1649, the name of Dr. Ralph H. Williams, examiner in physiology, was accidentally omitted.——Dr. Jason Parker has been made secretary of the board of health commissioners of Jamestown, and Dr. Morris N. Bemus has been appointed a member of the local board of health.

Emma Calvé Camp Opens.—The New York Throat, Nose and Lung Hospital has opened its tuberculosis annex and night camp immediately adjoining the present hospital building. The annex has fifty beds. The camp is named in remembrance of the singer who gave a concert at which a large sum was raised for the hospital. The camp is intended for men only, who go there after their days' work is done.

Medical Library Association Elects.—The Utica Medical Library Association, at its annual meeting, held November 8, elected Dr. Raymond L. Baker, president; Dr. Thomas C. Gifford, vice-president; Dr. Angeline Martine, secretary; Dr. Charles H. Baldwin, treasurer; and Dr. Smith Baker, librarian.

Appropriation for Tuberculosis Hospital.—The Board of Supervisors of Monroe county, on November 3, adopted a report calling for an additional appropriation of $75,000 for a site and buildings for a tuberculosis hospital to be established on the county farm in the town of Brighton.

New York City

New Home of the Health Department.—Mayor McClellan has laid the cornerstone of the new office building of the Department of Health, at Willoughby and Fleet streets and Flatbush avenue, Brooklyn. Dr. Thomas Darlington, health commissioner, and Dr. Joshua M. Van Cott, president of the Kings County Medical Society, were the speakers. The cost of

the building will be about $350,000, and it is hoped that it will be ready for occupancy by January 1.

Personal.—Dr. Ernest Sachs has been appointed to the new surgical department for diseases of the nervous system just established at the Beth Israel Hospital.——Dr. Charles Hoffman has been elected professor of electrotherapeutics in the New York School of Clinical Medicine and the West Side German Dispensary.——Dr. John M. Wheeler has been appointed assistant surgeon in the ophthalmic department of the New York Eye and Ear Infirmary.

German Hospital Dinner.—The German Hospital Dispensary celebrated its fortieth anniversary by a dinner at which Professor Hallock of Columbia University and Dr. August Zinsser made addresses. Gifts of $5,000 each were announced from Mr. Max Richter and Mrs. Victor Bayer. On this occasion Dr. Zinsser received an honorary degree from the University of Giessen, Germany, and Dr. Otto G. T. Kiliani was presented with the order of the Crown in the third degree by Rudolf Franksen, German Consul General, who was the bearer of a letter from the Chancellor of the German Empire. Drs. Rudolf C. L. Denig and Louis Peiser each received the order of the Red Eagle in the fourth degree.

More Hospital Space Needed.—The annual report of the Charity Organization Society sets forth the most urgent need of more beds and hospitals for the victims of tuberculosis in order to meet the increased overcrowding which are found throughout Manhattan and the Bronx. The situation in Harlem and the Bronx is becoming a problem by itself. They also urge more playgrounds, industrial schools, day nurseries and diet kitchens. More than 70,000 visits were made to families and nearly $85,000 has been disbursed in material relief. The Special Employment Bureau has been endeavoring to solve the problems of occupations for cripples and for cases of arrested tuberculosis.

Harvey Society Lectures.—The fifth course of Harvey Society Lectures began October 30 with a lecture by Dr. Richard M. Pearce on "The Problems of Experimental Nephritis." Other lectures will be given Saturday at 8:30 in the Academy of Medicine, 17 West Forty-third street, as follows:

December 4.—Prof. Otto Cohnheim, University of Heidelberg, "The Influence of Sensory Impressions on Scientific Deductions."
December 11.—Prof. T. G. Brodie, University of Toronto, "Renal Activity."
December 18.—Prof. Carl G. Huber, University of Michigan, "Renal Structure."
Jan. 15, 1910.—Prof. Ludwig Hektoen, University of Chicago, "Certain Phases of the Formation of Antibodies."
February 19.—Dr. Eugene L. Opie, The Rockefeller Institute, "Inflammation."
March 5.—Prof. Adolf Meyer, Johns Hopkins University, "The Present Status of Aphasia and Its Relation to Psychopathology."
March 19.—Prof. A. Magnus-Levy, University of Berlin, "Pathology and Therapy in Diseases of Metabolism."
April.—Prof. Jules Bordet of the Pasteur Institute of Brussels. The exact date and title will be announced later.

NORTH DAKOTA

Personal.—Dr. Maude R. Williams has been elected secretary of the Health Reform Organization recently organized at Devils Lake.——Dr. Thomas M. MacLachlan, Bismarck, has resigned as physician to the Indian School.

Sanatorium Site Selected.—After several months' deliberation, the committee consisting of Drs. Gustave F. Ruediger, Grand Forks, James Grassick, Grand Forks, and Fannie Dunn Quain, Bismarck, appointed by the state legislature to select a site for a state sanatorium for tuberculosis, announces that it has selected a site 2½ miles north of Dunseith, on the south slope of Turtle Mountain. The state proposes to buy 160 acres if the town of Dunseith will furnish 80 acres additional.

District Society Organized.—As the result of the recent visit to Dickinson of Dr. J. N. McCormack, the Southwestern District Medical Society has been organized, with the following officers: President, Dr. Victor H. Stickney; vice-president, Dr. Homer A. Davis, and secretary, Dr. Joseph P. Weyrens, all of Dickinson.

OHIO

Defense Society Urged.—In order to protect the rights of the medical profession of the state from quacks, blackmailers, malpractice suits and other evils, the founding of a state defense organization was advocated at a meeting of the State Association of Secretaries of Medical Societies, held in Columbus recently.

Personal.—At the recent municipal election, Dr. Louis Schwab was elected mayor of Cincinnati, Dr. John M. Withrow, a member of the board of education at large, and Dr. Henry J. Cook, a member of the city council.——In a collision between automobiles at Cleveland, November 11, Dr. Willard C. Stoner was thrown from his auto and severely injured.

Hospital Staff Elected.—At a special meeting of the board of directors of the Cincinnati Hospital, the following staff was elected for the ensuing year:

Physicians East Medical Service: Drs. Edwin W. Mitchell and Frederick Forchheimer, seniors; Dr. Louis G. Heyn, junior.
Physicians West Medical Service: Drs. George A. Fackler and Oliver P. Holt, seniors; Dr. Allan Ramsey, junior.
Physicians South Medical Service: Drs. John E. Greiwe and Mark A. Brown, seniors; Dr. Henry L. Woodward, junior.
Neurologists: Drs. Herman H. Hoppe and Frank W. Langdon, seniors; Dr. Phillip Zenner, consultant, and Drs. Robert Ingram and David I. Wolfstein, juniors.
Surgeons: Drs. Joseph Ransohoff, Nathaniel P. Dandridge, Edward W. Walker, John C. Oliver, Horace J. Whitacre and Simon P. Kramer, seniors, and Drs. Casper E. Hegner, Arch I. Carson, Carl R. Hiller, Harry H. Hines and Frank E. Fee, juniors.
Orthopedic surgeons: Drs. Albert H. Freiberg and Charles E. Caldwell, seniors, and Dr. Robert Carothers, junior.
Dermatologists: Drs. Augustus A. Ravogli and Meyer L. Heidingsfeld, seniors, and Dr. Elmore B. Tauber, junior.
Oculists: Drs. Robert Sattler and Derrick T. Vail, seniors, and Dr. Victor Ray, junior.
Laryngologists and aurists: Drs. Samuel E. Allen and John W. Murphy, seniors.
Pediatrists: Drs. Allyn C. Poole and B. Knox Rachford, seniors, and Drs. Alfred Friedlander and Frederick W. Lamb, juniors.
Obstetricians: Drs. William D. Porter and George M. Allen, seniors, and Dr. Robert W. Thomas, junior.
Gynecologists: Drs. Charles A. L. Reed, Charles L. Bonifield, John M. Withrow and Sigmar Stark, seniors, and Dr. James W. Rowe, junior.
Pathologist: Dr. Paul G. Woolley.
Radiographer: Dr. Sidney Lang.
Cystoscopists: Drs. A. P. Cole and J. Louis Ransohoff.
Dentist: Dr. H. C. Matlack.
Laboratory and museum: Drs. W. E. Wherry, Frederick W. Lamb, Arthur E. Osmond, Charles S. Rockhill, Marion Whitacre, William H. Striedmann and A. P. Cole.
Anesthetist, with rank of junior, Dr. F. H. McMechan.

OREGON

Hospital for Wallowa.—At a mass meeting, November 4, in Wallowa, $3,000 of the $5,000 necessary to secure the building of a hospital in that city was subscribed. The institution will be in the charge of Dr. Verdo D. Gregory.

Free Dispensary to be Opened.—With the cooperation of the Oregon Medical College and Visiting Nurses' Association, the Peoples Institute has decided to open a free dispensary in rooms rented from the Men's Resort.

Personal.—Dr. Edwin E. Straw, mayor of Marshfield, was painfully injured in an automobile accident, October 10.——Dr. Jacob S. Giltner, Portland, sustained a third attack of paralysis, October 5.——Dr. Estelle J. Stinson, Portland, suffered a dislocation of the elbow, contusion of the shoulder and a severe cut on the face in a runaway accident recently.

PENNSYLVANIA

Ex-Residents' Association Election.—At the regular meeting of the Mount Sinai Hospital Ex-Residents' Association, held November 3, the following officers were elected for the term of one year: President, Dr. Maurice B. Cooperman; vice-president, Dr. Samuel Wexlar, and secretary and treasurer, Dr. Morris Ginsburg.

New Portrait for University Collection.—An addition has been made to the collection of oil portraits in the Medical Department of the University of Pennsylvania, a painting by Lazar Luditz of Dr. Hobart A. Hare, professor of children's diseases in the university in 1890-91. The collection of portraits of ex-professors in the medical department is complete with but ten exceptions and this number will shortly be reduced to seven, as the descendants of Dr. Adam Kuhn and Jacob Randolph have recently promised to present oil paintings of their ancestors, and Julian Story has almost completed the portrait of Dr. Samuel G. Dixon. Of the seven remaining ex-professors whose portraits are lacking, five are living, Drs. Billings, Starr, Flexner, Strawbridge and Kelly, while two are deceased, Drs. J. B. Rogers and John Carson.

State Hospitals Warned.—Heads of all the state hospitals for the insane were warned, November 15, by Auditor General Young that he would no longer honor bills for patients who were not actually being treated. It is said to have been the practice in many hospitals to allow patients to go out on parole and still to continue to carry the names on the records as being under the care and treatment of the institution.

Philadelphia

New Quarters for Pediatric Society.—The Philadelphia Pediatric Society announces that it has secured Thomson Hall in the new building of the College of Physicians, where all future meetings will be held.

New Home for Indigent.—On November 18, council's finance committee reported favorably an appropriation of $50,000 for the purchase of a site, containing forty-seven acres, known as

V 53
1909

the Holmesburg Driving Park. This is the first step toward building the new home for the city's poor. There is already available nearly $700,000 for the building. Before the plans are drawn Dr. Joseph S. Neff, director of health and charities, and the architect will consult with Homer Folk, president of the New York visiting committee of the New York State Aid Association.

Physicians Guests of Druggists.—The members of the Southwark Medical Society were the guests of the Southeastern Drug Association at a banquet, November 19. The speakers were Dr. Max Staller, president of the society, and Dr. Max Barbour. The latter spoke on "The Relation of the Physician to the Druggist."

GENERAL NEWS AND COMMENT

The "New" (?) Method of Spinal Anesthesia

Sensational reports of a remarkable new anesthetic and method of anesthesia have recently appeared in the newspapers. These reports, which would lead the reader to infer that this method had just been brought before the profession, refer to the method of spinal anesthesia with Jonnesco's modification, by which, through the addition of a small quantity of strychnin to the anesthetic (stovain) to overcome the toxic effects, he claims to be able to make the injection at any point of the spinal column, so as to secure complete general anesthesia.

Of course, spinal anesthesia has been in use for several years; and even the modification introduced by Jonnesco of Bucharest is not new, having been presented by him before the Second Congress of the International Society of Surgery, which met at Brussels in September, 1908. In conjunction with A. Jiano, Jonnesco also published his modification in the *Therapeutische Monatshefte*, May, 1909, and elsewhere. In the *Presse médicale*, Oct. 13, 1909, he published a full account of his methods and results. Briefly, his technic is as follows:

A quantity of stovain (tropocain or novocain), varying according to the patient and the height at which the puncture must be made, is placed in a sterilized rubber-stoppered tube. To this is added 1 c.c. of a solution containing from 0.5 to 1 mg. of strychnin sulphate in sterilized water. The puncture is made in one of two localities, between the first and second dorsal or between the twelfth dorsal and the first lumbar vertebræ, or both combined. For anesthesia of the head and neck, the patient lies with the head a little raised if the operation is to be made on the neck, or with the head horizontal if the operation is to be made on the face or skull. If the operation is on the arm, the patient remains sitting for two or three minutes and then lies with the head slightly raised. For operation on the abdominal viscera and the lower extremities, injection is made into the dorsal lumbar region and the patient is kept sitting for two or three minutes, after which he is allowed to lie with the shoulders raised.

Jonnesco claims to have had no fatalities and no mishaps during or after the anesthesia. In his view there are no contraindications and the anesthesia is always successful if the fluid has entered the subarachnoid space. Jonnesco asserts that the method is particularly advantageous for operations on the face and neck; also for laparotomies on account of the absolute immobility of the viscera and the freedom from coughing and vomiting. He says that in the hands of other surgeons his method has given favorable results, the total of cases in which this technic has been applied to July, 1909, amounting to 625. A tendency to nausea was noted in scarcely more than 2 per cent. of his cases; vomiting in 1.25 per cent.; sweating in 2 per cent.; slight headache, disappearing in a few hours, in 6.25 per cent., and retention of urine in 4.5 per cent., but only after operations in which this is usual under inhalation anesthesia. The pulse was generally normal, occasionally a little accelerated (80 or 90), but always strong, showing how the strychnin obviates the depressing action of the anesthetic. There was momentary arrest of respiration in five cases during Jonnesco's tentative experiments with atropin, scopolamin, etc., but none since he has been using the technic described. The anesthesia persists for from one and a half to two hours. Less than 0.1 gm. of stovain allows persistence of sensation of traction, but with this dose all sensation is abolished. Jonnesco adds that the strychnin and stovain must not be sterilized, as this impairs some of their properties.

At the meeting of the thirty-eighth congress of the German Society of Surgery at Berlin, April 14 to 17, Bier, in discussing spinal anesthesia, condemned the method of Jonnesco; and Rehn, at the same meeting, stated that if an anesthetic liquid is injected into the tissue of the medulla in animals, death occurs immediately, owing to a subacute intoxication by the medicament, for, Rehn says, death does not result if distilled water only be injected. This experiment, according to Rehn, shows the considerable danger of injections made above the lumbar region, as Jonnesco has recommended. Jonnesco's illustrated paper in the *Bull. de l'Acad. de Méd.*, Oct. 12, 1909, and in the *Presse médicale*, cited above, is in part a reply to these criticisms.

Southern Medical Association Meets.—The fourth annual convention of the Southern Medical Association was held in New Orleans, November 9-11, under the presidency of Dr. Giles C. Savage, Nashville. The annual oration was delivered by Dr. Isadore Dyer, New Orleans; the address in medicine by Dr. John A. Witherspoon, Nashville, Tenn.; the address in surgery by Dr. Francis G. DuBose, Selma, Ala., and the address in ophthalmology by Dr. Alexander W. Stirling, Atlanta, Ga. Dr. Witherspoon made a plea for the elimination of politics from medical boards, and urged the association to demand that the laws of the states included therein be so changed as to make it obligatory on the respective governors to select members of state boards of health from a list of competent physicians recommended by medical men. The following officers were elected: President, Dr. Walter W. Crawford, Hattiesburg, Miss.; vice-presidents, Drs. James F. McKinstry, Gainesville, Fla.; Waller S. Leathers, University, Miss.; Jacob R. Snyder, Birmingham, Ala.; H. L. Harris, Georgia; George Dock, New Orleans, and Frank A. Jones, Memphis, Tenn., and secretary-treasurer, Dr. Oscar Dowling, Shreveport, La. (reelected). Nashville was selected as next place of meeting. A resolution was introduced by Dr. Frederick J. Mayer, Scott, La., urging the clergy to unite with physicians in improving the sanitary conditions of the South, and that steps be taken to systematically collect vital statistics. Dr. E. Denegre Martin, New Orleans, introduced a resolution endorsing the movement for a national board of health. A resolution was adopted thanking John D. Rockefeller for his contribution of $1,000,000 to fight the hookworm disease. The medical section elected Dr. George Dock, New Orleans, chairman, and Dr. H. Eugene Mitchell, Birmingham, Ala., secretary. Dr. Urban S. Bird, Tampa, Fla., was elected chairman of the section on ophthalmology, and Dr. Edward C. Ellett, Memphis, Tenn., secretary. The surgical section elected Dr. E. Denegre Martin, New Orleans, chairman, and Dr. Jere L. Crook, Jackson, Tenn., secretary.

Plans and Suggestions for the Housing of Tuberculous Patients.—The National Association for the Study and Prevention of Tuberculosis, 105 East Twenty-second street, New York, has issued a pamphlet entitled "Some Suggestions and Plans for Housing Consumptives," containing views, floor plans and estimated cost of construction of cottages and sanatoriums of various types. The subjects considered are: the grouping of sanatorium buildings; administration buildings; the plan of combining administration buildings and patients' quarters under one roof (not recommended, except where economy in the remodeling of old buildings is the first consideration); the lean-to type of patients' quarters (recommended for cheapness of construction and as serviceable and comfortable when roughly finished for patients with incipient tuberculosis, and when well finished for patients with advanced tuberculosis); infirmaries and buildings for patients with advanced tuberculosis; the cottage type of building for one, two or more patients; remodeled farmhouses; day camps; and sleeping-porches for home treatment. The pamphlet embodies the preliminary report of the studies of Dr. Thomas Spees Carrington, who has by correspondence and personal investigation covered the entire field of the United States. The association has at its offices much more detailed data, architects' plans, drawings, etc., and invites correspondence with any one interested in the subject of sanatorium and hospital construction.

Sioux Valley Physicians to Meet.—The semi-annual meeting of the Sioux Valley Medical Association, whose membership is made up of physicians of Minnesota, South Dakota, Nebraska and Iowa, will be held in Sioux City, Iowa, January 20 and 21, under the presidency of Dr. Mathew N. Voldeng, Cherokee, Iowa. The program for the coming meeting is arranged with special reference to the interests of the general practitioner and internist.

Meeting of Southwestern District Medical Society.—At the fourth annual meeting of the Medical Association of the Southwest, held in San Antonio, Texas, November 9, 10 and 11, under the presidency of Dr. Jabez N. Jackson, Kansas City, Mo., the following officers were elected: President, Dr. George H. Moody, San Antonio, Texas; vice-presidents, Drs. Howard Hill, Kansas City, Mo., Charles E. Bowers, Wichita, Kan., David A. Myers, Lawton, Okla., and Asbury J. Vance, Harrison, Ark.; secretary-treasurer, Dr. Fred H. Clark, El Reno, Okla. (reelected); and executive committee, Drs. S. Grover Burnett, Kansas City, Mo., Jacob F. Gaell, Wichita, Kan., Everett S. Lain, Oklahoma City, Okla., James A. Foltz,

Fort Smith, Ark., Edward H. Cary, Dallas, Texas, and Charles E. Bowers, Wichita, Kan. Wichita was selected as the place of next meeting.

The Ohio Valley Meeting.—The eleventh annual meeting of the Ohio Valley Medical Association was held in Evansville, Ind., November 10, 11 and 12, under the presidency of Dr. Curran Pope, Louisville, Ky. The following officers were elected: President, Dr. Albert E. Sterne, Indianapolis; vice-presidents, Drs. G. Frank Lydston, Chicago, William D. Haines, Cincinnati, and Louis D. Brose, Evansville, Ind., and secretary-treasurer, Dr. Benjamin L. W. Floyd, Evansville, Ind. It was decided to hold the next meeting in Evansville.

Meeting of Railway Surgeons.—At the annual meeting of the Big Four Railroad Surgeons' Association in Indianapolis, November 4, the following officers were elected: Dr. John J. Kyle, Indianapolis, president; Drs. Charles K. Smith, Kankakee, Ill., Irvin J. Becknell, Goshen, Ind., and James T. Musselman, Paris, Ill., vice-presidents; and Dr. Thomas C. Kennedy, Shelbyville, Ind., secretary-treasurer.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, Nov. 13, 1909.

Exposure of a Notorious Quack

A notorious quack who described himself as "Dr. Walford Bodie, hypnotist, bloodless surgeon, etc.," has been effectually exposed in the law courts. The methods and success of this individual were extraordinary. He demonstrated (?) marvelous healing powers in cases of paralysis to the satisfaction of packed audiences at all the music halls of the country. Indeed from the theatrical point of view he was a "star" of the first magnitude, rivalling in attractive power the most talented artists of the variety stage. Attired in an academic costume with cap and gown he appeared on the stage and delivered a tirade against the medical profession and the hospitals and claimed to cure, by means of electricity, cases of paralysis which had been pronounced incurable. He announced that he knew that there were physicians and students in the audience from some well-known local hospital, such as St. Bartholomew's, who regarded his healing powers with jealousy. He evoked a cheer by challenging them to come on the stage and disprove anything he said. Then a number of patients were introduced for treatment. They were always carried on the stage, the lights were lowered, "Dr." Bodie performed passive movements of the joints of the paralyzed limb and then applied electricity from a battery, the lights were raised and the patient walked off the stage amidst applause. A farmer's son, who paid the quack $5,000 to teach him "bloodless surgery, hypnotism and medical electricity," was simply shown how the tricks were done. He sued for breach of contract. A boy, the subject of infantile paralysis, gave evidence that after he had been treated at two hospitals he saw "Dr." Bodie one morning at the Camberwell Music Hall. It was arranged that he was to come for the evening performance. He was not allowed to walk on the stage, although he could have done so. He was forced into a chair and carried on. He had never used crutches, but a pair were flung across the stage as though he had. "Dr." Bodie moved the limb about, applied the battery and then amid the applause of the audience led him off the stage. Another cripple who had to walk with sticks had his sticks broken before the audience and consequently had the greatest difficulty in getting home, even with the assistance of his mother and brother. A third was made to hold up a chair in sight of the audience as if he had been cured of paralysis of the arm, although only his legs were affected. In other cases the performance was given with the aid of confederates who paid for admission and pretended to be members of the audience. One was said by the "doctor" to be "suffering from catalepsy in a diseased form." The jury found that Bodie induced the plaintiff to enter into the agreement by fraudulent misrepresentations and awarded $5,000 damages.

The Cripples' Home and College at Alton

One of the most remarkable institutions founded in this country is the Cripples' Home and College which has recently been founded by one of the lord mayors of London, Sir William Treloar. It is situated on an estate of seventy acres in Hampshire and consists of wooden pavilions on brick piles connected by covered corridors. Not only is every provision made for the medical treatment of crippled children but also for their education and training in useful arts. There are carpenter, leather-bag and tailoring workshops in which sixty cripples are being trained. Two hundred children under 12 are being treated for active tuberculosis. It is now well recognized that the treatment of such cases in the hospitals of cities, whether as in- or out-patients, is most unsatisfactory. The greatest precautions are taken against the introduction of infectious diseases into the home by new patients. On admission the child's clothes are sterilized and the child is placed in quarantine for a fortnight in a glass cubicle. Most of the cases are tuberculous. The only other elements in the treatment which are regarded as important are diet and open air. Tuberculous abscesses are treated by aspiration under strict aseptic precautions and the results are much better than those of operation which often ends in septic infection. In the summer an open-air school is held in an adjoining forest for those children who can attend, on the lines of the forest school in Charlottenburg. There is also a college for a different purpose—the training in some trade of boys from the ages of 14 to 18 crippled from any cause. Those for whom an open-air life is especially suited learn poultry farming and horticulture. Others learn leather-working, cobbling and tailoring. A proposed extension of this work is the establishing of a self-supporting labor colony. All lads who can be benefited by drilling are drilled. Special exercises are employed in cases of scoliosis and other deformities.

The British Medical Journal's Attack on Nostrums

The *British Medical Journal* has republished in book form the series of articles which appeared in its columns, entitled, "Secret Remedies: What They Cost and What They Contain." The book has had a very large sale and already has had to be reprinted several times, although it has not been extensively advertised, and indeed some leading journals of the lay press have both declined advertisements of the book and also ignored copies that were sent for review. The reason, of course, is that nostrum mongers advertise heavily in the lay press and the papers in question are afraid of offending them. I pointed out previously that any attempt to deal with the nostrum evil would be resisted by several powerful forces, among which was the lay press. The papers which have refused the advertisements are otherwise highly respectable and profess to instruct their readers on everything under the sun but they now refuse to give them the only reliable information ever offered to the public on the highly vaunted remedies which occupy so much of their space. Of course nostrums of this class—infallible cures for consumption, rheumatism, cancer and other diseases—find no place in the advertising pages of the medical press. But it must be confessed that preparations of secret composition for which misleading claims are made, such as antikamnia, are advertised by some journals. Indeed, the cynic may amuse himself by reading in one English medical journal a series of articles denouncing nostrums and quackery of all sorts and finding in the advertising pages preparations of the antikamnia class. The majority of the preparations, however, advertised in the medical journals are produced on ethical lines and no recognized medical journal in this country is controlled by nostrum vendors. We have no journals of the class which exhausts vituperation in resisting the attempts of the Council on Pharmacy and Chemistry of the American Medical Association to deal with the nostrum evil and have the audacity to describe themselves as "independent" when they are dependent in the worst sense—dependent on the pay received for write-ups published to mislead the profession.

The Teaching of Therapeutics

At the Royal Society of Medicine, Prof. Clifford Allbutt opened an important discussion on the teaching of therapeutics in the hospital ward. He said that physicians must be pioneers and could not afford always to wait for the pharmacologists; but there must be mutual watchfulness of each other. Much that we know now to be good came from empirical knowledge and this was still going on, but our empiricism must be of the best, the knowledge of experience. He gave three examples of empirical knowledge which originally came from folk-medicine, and which has stood the test of modern research—digitalis, vaccination and poultices. The latter after suffering abuse had been shown by the work of Bier to be fundamentally reasonable. The student should be assured that apart from pharmacologic proof there was a large tradition of empirical knowledge of great value. He should be told that such and such are the means found useful in clinical experience whether they could be scientifically explained or not. They should go to the bedside as artists to do what good they could for the patient with such lights as they had. Finally, the student should be told he had to deal with living realities. He should be (1) no sceptic or he would endanger his own resourcefulness; (2)

V 53
1909

given a clear idea of the *vis medicatrix naturæ*; (3) warned against the overuse of drugs and shown how closely therapeutics depend on prognosis. In the discussion which followed there was some divergence of opinion. Professor Osler described the methods adopted at the Johns Hopkins University and laid stress on their practical advantages. Dr. R. Hutchison relied more on teaching the student to be a sound diagnostician than a pharmacologist and suggested that the time was ripe for some agreement on the main lines of treatment to be adopted in certain well-known diseases, such as gastric ulcer. Dr. A. P. Beddard thought it was impossible to teach therapeutics in the wards.

The Falling Birth-Rate

The registrar-general's return for the quarter ending September again records a decreased birth-rate for England and Wales, the proportion being 25.4 annually, which is 2.5 below the average for the ten corresponding quarters and is the lowest for any third quarter of the year since the establishment of civil registration. On the other hand, the deaths were only 11.6 per 1,000, which was 3.4 below the average for the last ten years, and again the lowest on record for the period in question. Taking the two returns together, the natural increase in population by excess of births over deaths was 123,878, as against 123,197 in 1908. The low death rate is all the more remarkable, as the weather conditions have been unfavorable. The summer months included only one substantial spell of fine seasonable weather. Thanks to the great attention which is now being paid to infant hygiene, the mortality of infants under 1 year showed the large decrease of 38.6 per cent.

Deaths Due to Veronal

The public have no difficulty in obtaining hypnotic veronal in the form of tablets from the druggists. A considerable number of deaths following the use of the drug has now been recorded, and in several cases the dose taken was by no means large—10 or 15 grains. In one fatal case the subject, a well-known physician, the son-in-law of an eminent London surgeon, died in the prime of life.

Death of a Pathologist from Glanders Inoculation

The death at the early age of 30 years of Dr. John Herbert Wells, adds one more to the list of martyrs in the cause of scientific investigation. A career of promise has been cut short. After distinguishing himself in original research, Dr. Wells joined the department of therapeutic inoculation at St. Mary's Hospital, and in conjunction with the chief, Sir A. E. Wright, did valuable original work. In February, 1908, he began a research on the treatment of glanders, and the patient on whom his treatment was tried recovered, but in his laboratory work Dr. Wells had the misfortune to contract the disease. After eighteen months of suffering, he died, leaving a widow and two children unprovided for. An influential committee has been formed to collect a fund for their benefit.

The Fate of the Dolicho-Cephalic Blond Race

At the Royal Anthropological Institute of Great Britain, Professor Retzius of Stockholm delivered the Huxley lecture on "The Fate of the Dolicho-Cephalic Blond Race." The son of Anders Retzius, the founder of modern craniology, his lecture was worthy of his origin, and proved of great interest. He finds that 87 per cent. of the Swedes are long-headed and 73 per cent. have fair hair. These he regards as pure representatives of the North European race, which is still found in Scandinavia, North Germany and Britain, but from the earliest neolithic time spread widely over Europe. He regards them as the aborigines of Europe. Of their future, Professor Retzius takes a gloomy view. He thinks the qualities which made them great in the past unfit them for the life of industrial civilization. The round-headed, dark-haired race has supplanted them in central Europe by superior industrial qualities and threatens ultimately to overwhelm them.

Indian Conference on Malaria

The government of India proposes to form a permanent organization to inquire, systematically, into the problems, both practical and scientific, connected with malaria in India. It is estimated that over 1,000,000 deaths per annum occur from this disease. It has been decided to hold a conference in consultation with the administrative medical officers of the various provinces. Three groups of problems will be discussed: (1) The distribution of malaria in each province in relation to the sickness and mortality it produces; (2) measures of prevention which have been adopted in different provinces, such as drainage, mosquito destruction, and quinin distribution and their success or otherwise.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, Nov. 4, 1909.

Association of the Members of the Faculties of the Medical Schools

The *Association des membres du corps enseignant des Facultés de médecine*, founded last spring (THE JOURNAL, April 10, 1909, lii, 1192; May 22, 1909, lii, 1676) held its second convention October 29 and 30 at the Paris school, under the presidency of Prof. J. Courmont of Lyons, assisted by Professors Reclus of Paris and Gross of Nancy. During four long meetings the delegates studied, article by article, the new ministerial project for reform of medical studies. The convention asked for the adoption of the principle sanctioning interchange of students between schools during the entire student period. The present regulations permit the student in his fifth year to study in a hospital either in a foreign country or in France, provided the necessary conditions are met. What is demanded now is that the student should be permitted to exchange one university for another during any of the years as is done abroad, especially in Germany, where the student has the privilege of taking parts of his course in the university which has the reputation of giving this part of the instruction best. The convention also considered the subject of practical instruction. Unfortunately, in the greater number of our university cities, especially in Paris, the hospitals belong not to the universities but to the public charities (*Assistance Publique*) and the latter sometimes adopt measures not favorable to instruction. Thus, a few years ago, the Public Charities of Paris made the dispensary consultations independent of the internal hospital service. The *stagiaire* students at the hospital are thus deprived of the possibility of seeing cases frequent in ordinary practice but not treated in hospitals. It is the universal opinion that the consultation is the place where students can get the best practical instruction. Doubtless the students might attend the dispensary consultation during a part of their period of hospital study, but in Paris, at least, these special consultation services are directed by the youngest members of the hospital staff, whose clinical experience hardly justifies entrusting them with the most difficult portion of practical instruction. Therefore, on the motion of Professor Delbet of Paris, the convention unanimously resolved that dispensary consultations should be organized supplementary to each clinical service.

The Next Congress of Practitioners

The Congresses of Practitioners, devoted exclusively to the discussion of questions of professional interest, constitute a novelty in the history of the French medical profession. The first of these congresses was held in Paris in 1907, the second in Lille in 1908, and the third will be held in Paris at the end of March, 1910. The approaching congress will carry on the campaign for the suppression of the illegal practice of medicine, and will also oppose the exploitation of physicians by mutual benefit societies. It will study the law on public health, the question of the reservation of the hospitals for the poor exclusively, and the relations of physicians with administrative bodies.

Depopulation in France

Statistics in regard to the fluctuation of population in France during the first semester of the present year have just been published. Here are the comparative figures of births and deaths for the first semester of the years 1908-1909:

	1909	1908
Births	398,710	411,402
Deaths	426,913	401,894

Thus the number of births has diminished by 12,692, and at the same time the number of deaths has increased by 25,019. The population of France has diminished by 28,203, figures representing the excess of deaths over births. Almost all the departments of France have contributed to this diminution of the population, but the excess of deaths over births has been particularly marked in the departments which contain large cities, as the departments of the Seine (Paris), Rhône (Lyons), Gironde (Bordeaux), Bouches-du-Rhône (Marseilles), Haute-Garonne (Toulouse), etc. Only in some departments of the north and west is an excess of births over deaths recorded.

The Oath of Hippocrates and Medical Ethics

Instruction in medical ethics being generally very imperfect, Dr. de Grissac believes that it would be advantageous to print on the first page of the thesis for the doctor's degree, the oath of Hippocrates, which sets forth all the principles of ethics, although in archaic form. The *Syndicat des médecins*

de la Seine has resolved that the oath of Hippocrates be hereafter printed on the first page of all the theses for the degree of doctor in medicine presented before the French schools. At the Montpellier medical school it has been the traditional usage to print this oath at the end of the thesis.

Improvement of the Night Medical Service in Paris

In consequence of complaints which were recently made on the subject of the workings of our night medical service (THE JOURNAL, Oct. 9, 1909, liii, 1201) a measure to make it more prompt has just been adopted. The booths in the streets used as stations for cabs and automobiles will hereafter remain open permanently. The public will find there, at any hour, the necessary information in regard to the night medical service, as well as the names and addresses of the physicians, midwives and pharmacists charged with the night service. At these posts, a police assistant mounted on a bicycle will be especially charged with the duty of summoning and accompanying the physician or midwife to the home of the person requiring services.

Sale of Oysters

In view of numerous cases of typhoid fever apparently caused by the consumption of diseased oysters, M. Chéron, under-secretary of the navy, has just appointed a commission, presided over by the inspector-general of the fisheries, to prepare hygienic regulations for the oyster-farms authorized to furnish oysters for consumption.

Laboratory Alcohol and the Public Revenue

For some time a notice has been posted on the door of the laboratory of the Pasteur Institute calling attention to the fact that the cost of the alcohol used has been considerably increased by revenue duties, and requesting economy in its use. All scientific and charitable institutions are affected by the duty, which was imposed in view of certain abuses which have been shown in the institutions of two large provincial cities. It will entail a burdensome expense on our laboratories. The price of alcohol at 90 degrees is raised by it to 4 francs 50 centimes a liter (about $3.50 a gallon); that of absolute alcohol to 6 francs a liter (about $4.75 a gallon). There will be an annual increase of expense for the Pasteur Institute of more than 10,000 francs ($2,000).

Traumatic Tuberculosis and the Law on Industrial Accidents

At a recent session of the Academy of Medicine, Dr. Mosny, physician of the hospitals of Paris, presented a report on the relations between tuberculosis and industrial accidents, which often cause many difficulties in legal medicine. Dr. Mosny admits that the influence of industrial traumatisms on the outbreak, and the aggravation of tuberculous lesions may be manifested in various ways, so that from the point of view of the employer's responsibility, three types should be distinguished: 1. The tuberculosis has really been inoculated in the course of work as in the case of butchers, etc. It is then undeniably the direct and immediate consequence of the accident and full compensation should be allowed. 2. The tuberculosis, hitherto latent, has been fanned into flame again by a traumatism without which perhaps it would never have broken out. Mosny thinks that a traumatism capable of causing such consequences is a source of harm to the victim equalled by that which would be occasioned by actual infection with tuberculosis; in other words, the employer's responsibility should be considered as complete as in the first case. 3. The traumatism has created in the tuberculous subject a new focus or has aggravated preexisting lesions. In this case the indemnity should be limited to the difference existing between the previous salary and the smaller salary which the workman is capable of earning after the accident.

Etiology and Prophylaxis of Typhoid in France

At the same session of the Academy of Medicine, Dr. H. Vincent, professor in the school of military hygiene at Val-de-Grâce, called attention to the great frequency of typhoid fever in France. The proportion of deaths due to this disease is 27.6 per 100,000 inhabitants, while it is only 17.5 in England, 10.2 in the Netherlands and 10.3 in Germany. In the last seventeen years the number of typhoid deaths may be reckoned as about 100,000, the equivalent of the population of a large city. Moreover, this disease strikes down by preference young people, thus entailing very serious consequences from the demographic and economic point of view in a country with a low birth-rate like France.

Drinking water, foodstuffs soiled by flies, milk, oysters, sweet cider prepared with contaminated water, uncooked vegetables grown on ground fertilized by sewage, are important causes. The disposal of fecal matter in sewage-fields, practiced in many regions, is one of the causes which contribute most to the spread of typhoid fever. The discovery of chronic bacillus-carriers has thrown light on many apparently spontaneous cases of typhoid and paratyphoid. Dr. Vincent submitted a long program of antityphoid measures, comprising the following: popular elementary education of children and adults through physicians in regard to the nature of infectious diseases, the means of transmission and the prophylaxis; appointment of physicians as instructors of hygiene in the various departments of France; education of physicians to be specialists in hygiene, and special instruction in epidemiology in the medical schools; creation of schools of disinfection for the training of squads of disinfectors; organization of an increasing number of laboratories or stations of epidemiologic and bacteriologic research to aid in the battle against typhoid by bacteriologic investigation of suspected cases, by examination of bacillus-carriers; periodical examination of drinking-waters, etc. To these measures it is indispensable to add prohibition of the disposal of fecal matter in sewage-fields. In discussing Vincent's paper, Dr. Vallin remarked that typhoid fever is less frequent in the north of France, where beer is habitually drunk, than in the south, where water is used to dilute wine. Widal emphasized the importance of isolating typhoid patients in hospitals as cases of contagion in the wards are not infrequent.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, Nov. 3, 1909.

The Imperial Association of German Physicians and the Imperial Insurance Bill

The counter organization to the Leipsic league which was founded a few months ago and which has assumed the haughty title of Imperial Association of German Physicians (*Reichsverband deutscher Aerzte*) has in the same way as the business committee of the German Medical Association (*Deutsche Aerztevereinsbund*) sent to the authorities a critique of the bill for an imperial insurance law in which naturally many demands are made which are in accord with the bill worked out by the government and are opposed to the demands of the medical association. Although the imperial association rejects the free choice of physician and wishes to leave the regulation of the medical system to a free agreement between the physicians concerned and the sick benefit societies (*Krankenkassen*), it does not differ from the medical association, for although the latter society wishes the free choice established, as a rule, it does not demand its compulsory introduction. While the medical association makes the demand that the insurance societies make the agreements as to the conditions of the contract only with the medical organizations, the imperial association wishes that such arrangements with private physicians be permitted as well.

This whole counter agitation is of little significance, as the imperial association comprises scarcely 2,000 members in contrast to the 24,000 members of the medical association.

Draft of New Penal Code

For some years there has been an urgent demand for a new penal code, since a number of the punishments imposed are antiquated. The draft of a new code elaborated by a commission of experts appointed by the government for this purpose has just appeared and contains a number of provisions that are of interest from their relation to sanitary matters. The age of criminal responsibility is advanced from 12 to 14 years. Confinement in an inebriate asylum can be ordered by the judge. A further provision against drunkenness is the possibility of forbidding the use of the saloon, and what is especially important, criminal responsibility for unconsciousness (*Bewusstlosigkeit*) as the result of voluntary inebriety, as well as for drunkenness dangerous to the general welfare. Discretion is given the judge to exempt from punishment in general those of defective responsibility. As a protection to the worker in dangerous trades special penalties are provided for removing or failing to provide protective devices. We will return to this important subject.

Personal

Professor Franz, the gynecologist of Jena, has been appointed as director of the gynecologic clinic at Göttingen as successor of Professor Runge.

Privy Councilor Dr. Wehmer, advisory physician to the Berlin police department, died October 31, at the age of 54, from heart failure, while riding his wheel. Wehmer had made himself a name in various branches of state medicine; he had

V 53
1909

devoted himself especially to the subjects of midwifery, school sanitation, and veterinary medicine. Among his important works we may mention: "The Sanitary Conditions of Berlin," "A Handbook of Public Health," "The Principles and an Encyclopedia of School Sanitation." Since 1897 he was president of the German Public Health Association of Berlin.

Full Time School Physicians

Three school physicians have been appointed for the evangelical schools of Chemnitz to devote their whole time to the work, beginning at Easter, 1910, at the salary of $1,750, to be increased to $2,250 (7,000 to 9,000 marks); in addition a pension is provided, but private practice is interdicted. Chemnitz has heretofore employed 17 school physicians on part time for its 34 schools with 42,000 pupils.

Monument for Fabricius von Hilden

The city authorities of Hilden (of the Rhine province) have determined to erect a monument to the famous seventeenth century surgeon, Fabricius von Hilden, who was born at that place, June 25, 1560. The unveiling is to occur in the summer of 1910, on the occasion of the three hundred and fiftieth anniversary of his birth. The city authorities have issued an appeal to all physicians for contributions.

Scarlet Fever Epidemic in Silesia

According to an official statement of the Silesian provincial medical board there have occurred in the district of Oppeln, since July 1, 2,200 cases of scarlet fever. By far the greatest number occurred in the industrial district of upper Silesia. In many localities the mortality reaches 30 per cent.

Cholera in East Prussia

The number of cholera cases in east Prussia has increased during the last week, but as before, the cases are sporadic.

Spinal Infantile Paralysis

Small epidemics of spinal infantile paralysis are now appearing in Silesia and in Mecklenburg. So far no fatal cases have been observed.

Tuberculosis Examinations by the Berlin Municipal Laboratory

The serious complaints that have been directed against our city government for the order described in the previous letter have borne fruit sooner than was to be expected. The administration has given notice that examinations of tuberculous material will be conducted also in the municipal laboratory free of cost. It would be very satisfactory if the administration on this occasion had announced a change in the policy maintained up to the present time and would pay more attention in future to the sanitary suggestions that are made by the medical profession.

German Institute for Medical Missions

A short time ago the German institute for medical missions was ceremoniously dedicated at Tübingen. This is an institution which has been established at the suggestion of the Stuttgart association for medical missions with the cooperation of all the evangelical missionary societies of Germany and Switzerland. The principal building furnishes accommodations for 32 students of medicine and missionaries. In addition there is a woman's building (*Schwesternheim*) that provides for 15 women medical students and future missionary midwives. In both houses there are for the inmates large society rooms, dining rooms, library, etc. The institute for medical missions is intended to make the students of medicine at the university of Tübingen and the members of the missionary societies acquainted with the requirements of the missionary service and in addition to give instruction in tropical hygiene and tropical medicine. For purposes of instruction, which is to be strictly scientific, it is planned to establish a clinic for tropical disease with the necessary laboratories at a cost of from $75,000 to $100,000 (300,000 to 400,000 marks). In order that no misuse of the knowledge obtained shall be made by those who are not physicians, every missionary who enters the institution must sign a statement that he will not use the knowledge and skill obtained for commercial purposes, and that he will not, on the ground of his education in this institution, style himself a missionary physician, and that he will not practice medicine at any time, either in Germany or other European countries, unless he has fulfilled the legal requirements of the individual nations. The medical education of the missionaries lasts one year, the students pay $87.50 (350 marks) for the summer semester, and $112.50 (450 marks) for the winter semester and missionaries pay for the year's instruction, $300 (1,200 marks).

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, Nov. 6, 1909.

Investigations Into the Life of Medical Students

An interesting statistical research is just now going on in Vienna, the results of which are looked forward to with great eagerness by the circles interested in the outcome. Every medical student enlisting this winter term or the next (summer) term, at the Vienna University, will be asked to fill out a paper containing a series of questions: age, nationality, religion, language, financial position, previous education, and reasons for taking up medicine as a life-work. It is hoped that a large percentage of the students will take the slight trouble necessary to answer the questions. The student's name need not be given, only the initials. Separate lists will be kept for women. The only precaution taken is the earnest request to abstain from wilful misstatements.

As a rule medical students here belong to the poorer or at least not well-to-do classes of the population. Therefore, when once graduated they try to earn a living as quickly as possible, which explains why, generally speaking, medical fees in this country are much below English and American rates. Although warnings intended to stop the steady influx of new students to the profession have been published, the result has been inadequate. Therefore the investigators are directed also to find out why this special occupation was chosen by the individual.

Austrian Search for Scleroma

By an order of the ministry of the interior, all health officers are henceforth bound to report every case of rhinoscleroma to the ministry. For this purpose, a short description of the clinical symptoms, the histopathology and the geographical regions where it is found is furnished. Only a narrow strip of land bordering on Hungary and Russia, and part of the empire between Italy and Hungary may be looked on as a focus of infection. Altogether, there are about 320 cases now under observation, but without doubt, the actual number of persons afflicted is much larger. The order is partly an outcome of the last medical congress, partly the result of the work of the new health department, which in a remarkably progressive way tries to keep abreast of the advances in the science of hygiene.

Sale of Radium Salt

The production of radium has been carried on in Johannistal to such a degree that at present there is available a quantity equivalent to 1 gm. (15 grains) of the pure substance. Several tons of the ore had to be worked up before an appreciable amount was obtained. It is intended now to put the available quantity on the market solely for scientific purposes and for charitable institutions. It will be sold in quantities of 1 mg. (about 1/60 grain) of the 5 per cent. and the 10 per cent. salt. Bromid of radium has been chosen. The price of the 5 per cent. salt will be 1080 crowns ($244) per portion (1/60 grain). The sale will take place in the radium institute just now in course of erection. A magnificent gift by an anonymous benefactor, who gave $100,000 for this purpose on the understanding that an equal sum should be provided by the state, enabled the Vienna University to obtain its radium research institute, the first in the world as regards equipment for investigators. The necessary appropriation having been voted, the building is now almost ready for use.

Death of Professor Monti

By the death of Professor Monti, which took place during the last days of October, the Vienna medical faculty loses one of its best known and most honored members. He was a specialist in diseases of the children, and one of the founders and the director of the Vienna Poliklinik, where he was the head of the pediatric department. His courses were much frequented by Americans. He was the initiator of the "childreas' homes" in this country, and the convalescent homes on the Austrian coast of the Adriatic Sea were altogether the result of his strenuous effort. His merits were recognized by the emperor, who not only selected him as physician for his numerous grandchildren, but also conferred on him the title of *Hofrath* (court councilor). The contributions of the deceased physician to medical literature were not very numerous, his work having been chiefly practical and arduous endeavors to raise the standard of health and of feeding among the offspring of the poorest. His death will be sincerely lamented by many thousands of grateful patients and friends.

Pharmacology

ECHINACEA CONSIDERED VALUELESS

Report of the Council on Pharmacy and Chemistry

The Council has voted to reject several non-proprietary articles and has recommended that the reasons for their rejection be given in THE JOURNAL; among these is echinacea. The following paper has been submitted by a subcommittee with the recommendation that it be published. This recommendation was adopted.

W. A. PUCKNER, Secretary.

ECHINACEA

When this drug was first introduced, it was a typical nostrum, with exaggerations regarding its therapeutic value that were somewhat more gross than usual. It was later adopted by the eclectic school without being freed from the stigmata of its origin. It was also pressed into use as the main ingredient of such proprietary preparations as echafolta, ecthol, eusoma, etc. Efforts have been made to get the regular profession to use it in these various forms.

According to J. U. Lloyd (*Pharm. Review*, vol. xxii, p. 9-14), the introduction of echinacea into eclectic medicine is due to the efforts of Dr. H. F. C. Meyer to increase the sale of Meyer's Blood Purifier, a secret remedy containing it. The following is a literal copy of the label on this nostrum:

MEYER'S BLOOD PURIFIER

DIRECTIONS

Take one ounce three times every day in the following cases: *Rheumatism, Sick Headache, Erysipelas, Dyspepsia, Old Sores* and *Bites, Open Wounds, Dizziness, Scrofula* and *Sore Eyes.*

In case of *Poisoning by Herbs, & C.*, take the double dosis, and *Bites of Rattlesnakes* take three ounces three times a day, until the swelling is gone. This is an absolute cure within 24 hours.

After Lloyd had identified the plant, Meyer put the preparation out under another form with the following label:

ECHINACEA ANGUSTEFOLIA

This is a powerful drug as an Alterative and Antiseptic in all tumorous and Syphilitic indications; old chronic wounds, such as fever sores, old ulcers, Carbuncles, Piles, eczema, wet or dry, can be cured quick and active; also Erysipelas. It will not fail in Gangrene. In fever it is a specific; typhoid can be adverted in two to three days; also in Malaria, Malignant, Remittent and Mountain fever it is a specific. It relieves pain, swelling and inflammation, by local use, internal and external. It has not and will not fail to cure Diphtheria quick. It cures bites from the bee to the rattlesnake, it is a specific. Has been tested in more than fifty cases of mad dog bites in human and in every case it prevented hydrophobia. It has cured hydrophobia. It is perfectly harmless, internal and external.

Dose.—One half to one fluid-drachm 3 or 4 times a day.
Manufactured by H. C. F. Meyer, M.D.
PRICE, $ PAWNEE CITY, NEB., U. S. A.
Patent

These absurd claims of an evidently ignorant man have passed into the more recent proprietary advertising matters and into much of the eclectic writings. Indeed, the seemingly impossible has been attained by even surpassing Meyer's all-but-all-embracing claims. Not content with endorsing echinacea as a positive and speedy "specific" for rattlesnake bite, syphilis, typhoid fever, malaria, diphtheria and hydrophobia, later enthusiasts have credited it with equally certain curative effects in tuberculosis, tetanus and exophthalmic goiter, and with the power of retarding the development of cancer.

It is worth noticing—although it is not surprising—that these far-reaching claims have been made on no better basis than that of clinical trials by unknown men who have not otherwise achieved any general reputation as acute, discriminating and reliable observers. No attempt seems to have been made to verify these claims by accurate scientific methods, clinical or otherwise, although this could very easily have been done.

Not one of the eulogistic reporters and exploiters seems to have considered it worth while to determine by the simplest control experiments whether the drug possesses any bactericidal or antiseptic powers whatever. It is therefore not very strange that discriminating physicians have failed to show much enthusiasm. One of the warmest endorsers of echinacea, C. S. Chamberlain (who later became the president of the Eusoma Pharmaceutical Company), complains that he has been unable to interest regular physicians in the remedy. He reviews the statements of previous authors and reports eight cases of infection, only two being acute or extensive, in which he used it with asserted success.

In view of the lack of any scientific scrutiny of the claims made for it, echinacea is deemed unworthy of further consideration until more reliable evidence is presented in its favor.

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FALSE UNICORN (HELONIAS)

Report of the Council on Pharmacy and Chemistry

The Council voted to refuse to recognize false unicorn as a non-proprietary article and the following statements, submitted by a subcommittee, were ordered published.

W. A. PUCKNER, Secretary.

FALSE UNICORN—HELONIAS

Helonias dioica, or more properly *Chamalirium luteum*, is a plant, preparations of which enter into various proprietary mixtures for diseases of the female pelvic organs. In the advertisements of these preparations it is usually credited with hemostatic powers and is asserted to be a uterine tonic.

There is practically no reference to this drug in reliable medical literature, and as there is no evidence worthy of credence to support the claims made for it, the drug was not considered deserving of a place in the Pharmacopeia. Hence, it may be regarded as a drug not worthy of attention of physicians.

V 53
1909

Correspondence

Microscopic Moving Pictures

To the Editor: In the daily papers there have recently appeared items to the effect that Jean Commandon, a French scientist, has demonstrated in Paris in the presence of the members of the Academy of Science, his most wonderful invention, the microcinematograph, a machine which enables him to take moving pictures of microscopic objects and project them in motion on the screen. The New York *World* of October 31 says:

"No longer is it possible for a bacillus, however microscopic, to live and move secretly. At last the intimate existence of an active microbe has been betrayed by the cinematograph . . . With this new instrument living organisms one thousandth of a millimeter in diameter are photographed and magnified, and can be studied . . . Professor Duster, an eminent bacteriologist, says it is impossible to estimate the importance of this advance in science, which opens a new world to the human eye, and reveals facts about minutest organism hitherto unsuspected."

I desire to call attention to the fact that this invention is nothing new; that the idea of such a machine was conceived by me some fourteen or fifteen years ago, and that I demonstrated it, after the construction has been completed, as far back as 1897, in my private office in the presence of Dr. Wm. H. Katzenbach, Dr. E. Bradley, Dr. Goodwille, Mr. David St. Clair, and others of prominence.

After this demonstration took place, the "micromotoscope," as I named the machine, was described in the *Scientific American*, July 31, 1897, from which the following is quoted:

"The principles of the kinetoscope or mutoscope have been applied to the microscope with some interesting results by Dr. Robert L. Watkins of this city. The instrument, though simple, was made a success only after many experiments and failures in adjusting the objective of the microscope in a line with the right sort of light and a rapidly moving film . . . This machinery is turned by a crank and its ordinary capacity is about 1,600 pictures per minute . . . The advantages of the microscopic photography to microscopy are evident, especially as regards the action of bacteria and blood cells . . . Numerous photographs of bacteria were taken, but the motion happened to be an up-and-down one and showed no change of position in the field."

The same year (1897) the micromotoscope was again described and illustrated in *Photograms*, a London periodical, which said: "During the year two distinct steps have been made in kinematography"; then, after giving a description of Dr. Macintyre's invention in radiography, the editor proceeded:

"Dr. Watkins, on the other hand, combined kinetography and photomicrography, so as to be able to record and reproduce the movements of objects so small as corpuscles, rotifers, microbes. This power of studying the motion of the corpuscles is expected to prove of infinite value in the diagnosis of certain diseases. From this it will be seen that kinetography, which commenced as a scientific industry, has made distinct steps in scientific progress, in addition to captivating the public taste . . ."

Not only was credit given me in the periodicals quoted above, but the "Standard Dictionary," 1905 edition, in defining the micromotoscope, refers to me as its inventor.

At about 1898, I again demonstrated this machine to a private audience at my house in the presence of Mr. Hopkins, editor of the *Scientific American*, Dr. G. L. Curtis, Dr. Fitch, Dr. J. H. Gunning, Mr. Robert Niles, and a few others of this city.

With the assistance of Mr. Thomas F. Livingston and Mr. E. W. Clausing, the micromotoscope was also shown at the Grand Central Palace of this city in the fall of 1897 at the Trained Nurses' and Pure Food Exhibition. Numerous microscopic objects, taken with the micromotoscope, were projected on the screen at this exhibition. Among others were the circulation of the blood in the web of the frog's foot, rotifers in stagnant Croton water, an ameboid leucocyte, moving blood-cells under the microscope, moving germs in fermenting urine, micrococci and bacteria, etc. Some of these positives were printed in the Edison Laboratory, East Orange, N. J.

At the time of this exhibition Dr. F. M. Jeffries of the New York Polyclinic furnished me with some specimens of typhoid germs, of which I made micromotoscope negatives. The above pictures were shown to over 10,000 people; one night these photographs were thrown right across the length of the immense main hall, producing a magnification of about 1,500,000 diameters, according to our rough figures. Some of the microscopic objects looked like "whales and sea-serpents," as some in the audience observed. Charles L. Bristol, Professor of Biology in the New York University, remarked at the time that he had not supposed that this could be done.

Mr. F. M. Ramsden of Santiago, Cuba, who was very much interested in this scientific achievement, is in the possession of the only photograph I took of my first micromotoscope outfit in position ready to work. The first pictures that were taken by it were specially mounted for and presented to Dr. Abraham Jacobi, who now has them, and who readily remembered it, when I mentioned the fact to him a few days ago.

Since this first outfit, I have gradually improved my camera, making it more simple, until I have at last produced the unique machine which I am now using. In experimenting on this micromotoscope, I have used up enough machinery and material to fill up a good-sized junk-shop.

The latest demonstration of the last pictures taken with this machine took place in Chicago on June 17 of this year, where I showed it to an audience of 500 doctors of the National Eclectic Association. Had I not been delayed with the construction of my new projecting machine, a demonstration of the micromotoscope would have taken place at the American Medical Association meeting in Atlantic City, last June.

I can cite many more instances to prove the validity of my claim of being the first to conceive this idea and demonstrate with a machine and photographs. The credit, then, for this invention rightly belongs to an American and not to a Frenchman.

ROBERT L. WATKINS, M.D., New York.

Free Use of the Mails for Literature on Public Health

To the Editor:—About two years ago an effort was made by the state health officer of Florida to obtain for the various State and Territorial boards of health of the United States the privilege of free service through the mails for the distribution within State and Territory lines of sanitary and health bulletins and matters connected therewith. The measure was formulated into House Bill No. 11,317 and introduced by Hon. S. M. Sparkman, representative from the First Congressional District of Florida. When this measure was first proposed, the state health officer of Florida wrote to every State and Territorial board of health asking their cooperation through their representatives in Congress. Encouraging replies were received from all. It was hoped that the measure would become a law, especially since Mr. Sparkman received decided encouragement in his interview on the subject with the Postmaster-General. Later on, however, Mr. Sparkman was informed that President Roosevelt opposed the granting of this privilege; hence, of course, it was useless to proceed further with the measure.

The bill, as introduced, read as follows:

A BILL

H. R. 11317.

To extend the franking privilege to literature published by boards of health of states, territories, and municipalities in the United States.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled:

That it shall be lawful to transmit through the mails, free of postage, any printed letters circulars, documents, pamphlets, and literature relating exclusively to the public health, which shall be issued by or under the authority of any board of health of any state, territory or city in the United States.

Sec. 2. That every such letter or package to entitle it to pass free shall bear over the words "Public Health Business" an indorsement showing the name of the state, territorial or municipal board of health, as the case may be, whence transmitted. And if any person shall make use of any such official envelope to avoid the payment of postage on his private letter, package or other matter in the mail, the person so offending shall be deemed guilty of a misdemeanor and subject to a fine of three hundred dollars, to be prosecuted in any court of competent jurisdiction.

Now, there seems to be no good reason why the United States mails should not be made a medium for disseminating useful and instructive sanitary information to the people. Measures taken to inform the general public on questions relating to their health and life seem as important as political documents—to the mind of every intelligent citizen even more so; certainly capable of favorable comparison with the instance reported in the public press of "the franking of a set of furniture through the mails by a representative in Congress from his home at Washington when near the completion of his term of office."

This matter is now submitted to the medical profession and the health officials of the United States with the hope that they may approve the measure, give it strong endorsement to congressional delegations from each state of the union, and urge it with all fervency as an appeal to benefit humanity and to increase the life tenure of the citizen.

JOSEPH Y. PORTER, Key West, Fla.,
State Health Officer of Florida.

Ability, the Real Test

To the Editor: There is a tendency on the part of the embryonic medical practitioner to become imbued with the foolish idea, after he has formally done with the state medical examining board, and procured a license to practice the healing art, that the public cares only to know that he has spent so many years in the high school, so many years in the academy, so many years in the college of liberal arts, so many years in the medical department of some university, and so much time as an intern.

The length of time spent in a college, or a dozen colleges, is no guarantee of knowledge acquired, nor is it a gage by which the public may reckon the fitness of a man to practice the principles of the craft. In fact, years have nothing to do with gaging the mental capacities of men. Men's mental abilities vary. Man's individual ability is as varied as his undertakings, and he achieves the really great things only after he has tried himself out. Therefore, there should be but one test—the test of ability, not the test of time as spaced off by college men. Nor is this statement intended to cast any reflections whatever on those who are engaged in the teaching of medicine.

Avoid the exaggeration, and remember this: the public cares little how long we have studied a particular subject, but rather how much we know of it!

CLYDE A. HENRY, M.D., Farson, Iowa.

The Attempt to Degrade the Sanitary Service at the Isthmus

The following correspondence, which explains itself, is commented on editorially in this issue:

Hon. James R. Mann:

Dear Sir: The attention of the Committee on Medical Legislation of the American Medical Association has been called to H. R. 5155, introduced by you in the House of Representatives, providing for the government of the Canal Zone and the construction of the Panama Canal. An examination of the bill shows that in Section 3, providing for the organization of the canal board, no provision is made for a chief sanitary officer of the same rank as the director, chief engineer and governor. The result of the adoption of the bill in its present form would evidently be the subordination of the sanitary department to the position which it occupied under the first canal board. I am sure that this was not your intention, in view of the great importance of the sanitary department in making the construction of the canal possible. In other words, I am confident that the omission of such a provision is an oversight. I therefore take the liberty of calling your attention to it and shall be glad to learn whether it would not be possible to amend the bill so as to leave the position of the sanitary department unchanged. I shall be very glad to hear from you on this point.

FREDERICK R. GREEN,
Secretary, Committee on Medical Legislation.

HOUSE OF REPRESENTATIVES
COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE

Dr. Frederick R. Green, Chicago:

Dear Sir: Replying to your recent favor, I beg to say that I am not in favor of making a chief sanitary officer on the Canal Zone of the same rank as the chief engineer. It is not possible to have good government on the zone with a lot of different heads, but under the bill which I introduced the President has full authority to continue the Chief Sanitary Officer and give him as much authority as he now has. It would be impossible to carry on the work of the canal without constant friction if your sugestion was incorporated in the law and I trust that you will not push it. Certainly the sanitation of the canal will be cared for and there is no intention to let down on the character of the work now being performed.

JAMES R. MANN, M. C.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

CALIFORNIA: Los Angeles, December 7. Sec., Dr. Charles L. Tisdale, Butler Bldg., San Francisco.

DELAWARE: Regular, Dover, December 14; Homeopathic, Wilmington, December 14. Secretary of the Medical Council, Dr. H. W. Briggs, Wilmington.

IOWA: State House, Des Moins, Dec. 7-9. Sec., Dr. L. A. Thomas.

KENTUCKY: The Armory, Louisville, December 14. Sec., Dr. J. N. McCormack, Bowling Green.

MARYLAND: 1211 Cathedral St., Baltimore, December 14-17. Sec., Dr. J. M. Scott, Hagerstown.

PENNSYLVANIA: Regular and Homeopathic, Philadelphia, December 14-17; Eclectic, Harrisburg, December 14-17. Secretary of the Medical Council, Nathan C. Schaeffer, Harrisburg.

VIRGINIA: Lynchburg, Dec. 14-17. Sec., Dr. R. S. Martin, Stuart.

The Medical School as a Part of the University

In the annual address in medicine at Yale University, Prof. W. H. Howell (*Science*, July 30, 1909, p. 129) points out the remarkable progress which has been made in medical education in this country within the last decade. He, however, calls attention to the fact that by far the greatest progress has been made in the teaching of the medical or biologic sciences. The time of preparation for the clinical years has been greatly lengthened and improved, while in the last two, or clinical, years the progress has been comparatively very slow; so slow in fact, that the methods and quality of instruction in these years, in the majority of American medical schools, is very little improved over that given to the former generation.

The explanation of this is probably to be sought in the fact that the clinical men are too often capable practitioners rather than scientific physicians. Too often they are so lacking in an adequate knowledge of laboratory methods and the medical sciences that one is inclined to ask what is the use of giving the student a scientific training if the man who instructs him in diagnosis and treatment neglects to show wherein this knowledge is applicable. Under present conditions so much time and energy are devoted to private practice by the clinical men that original investigation and scientific clinical instruction sadly suffer as a consequence.

As a remedy it is recommended that the clinical professors be paid the full salary of a full professor and be limited in their practice to the University Hospital. Howell thinks that America is at present in a good condition to try such an experiment as well as to carry out the recommendation of the Council on Medical Education of the American Medical Association, that there be added to the present regular course of instruction a year of hospital service as an obligatory part of the requirements for the degree in medicine or for the license to practice medicine.

North Dakota October Report

Dr. H. M. Wheeler, secretary of the North Dakota State Board of Medical Examiners, reports the written examination held at Grand Forks, Oct. 5-7, 1909. The number of subjects examined in was 14; percentage required to pass, 75. The total number of candidates examined was 16, all of whom passed. Twelve reciprocal licenses were issued at this examination. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Bennett Medical College	(1908)	75
Northwestern University Medical School	(1909)	86
University of Iowa, Coll. of Med.	(1907) 81; (1909)	83
University of Louisville	(1909)	87
Harvard Medical School	(1898)	82
Univ. of Minnesota, Coll. of Med.	(1903) 83; (1909)	81, 81
Hamline University	(1907)	82
American Medical College, St. Louis	(1897)	76
Jefferson Medical College	(1909)	85, 87
Wisconsin College of Physicians and Surgeons	(1909)	77
Marquette University, Milwaukee	(1903) 76; (1909)	81

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Northwestern University Medical School	(2, 1909)	Illinois
Coll. of Phys. and Surg., Chicago	(1906) (1907) (1908)	Illinois
University of Michigan	(1907)	Minnesota
Medical School of Maine	(1906)	Maine
University of Minnesota	(2, 1906) (1908)	Minnesota
Hamline University	(1908)	Minnesota
Milwaukee Medical College	(1896)	Wisconsin

Utah October Report

Dr. G. F. Harding, secretary of the Utah State Board of Medical Examiners, reports the written examination held at Salt Lake City, October 4-5, 1909. The number of subjects examined in was 16; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 5, of whom 3 passed and 2 failed. Seven reciprocal licenses were granted. The following colleges were represented:

PASSED

College	Year Grad.
George Washington University	(1909)
Northwestern University Medical School	(1909)
University of Michigan, Homeopathic Department	(1909)

FAILED

Keokuk Medical College	(1909)
Tokio Medical College	(1909)

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
University of Colorado	(1907)	Colorado
College of Physicians and Surgeons, Chicago	(1904)	Wisconsin
College of Physicians and Surgeons, Keokuk	(1887)	Iowa
University of Louisville	(1907)	Wisconsin
New York University Medical College	(1899)	Colorado
Jefferson Medical College	(1892)	Colorado
McGill University, Montreal	(1897)	Illinois

Louisiana October Report

Dr. F. A. LaRue, secretary of the Louisiana State Board of Medical Examiners, reports the written examination held at New Orleans, Oct. 1-2, 1909. The number of subjects exam-

V 53
1909

ined in was 10; total number of questions asked, 50; percentage required to pass, 75. The total number of candidates examined was 23 of whom 19 passed and 4 failed. One candidate was licensed through reciprocity. The following colleges were represented:

PASSED		
College	Year Grad.	Per Cent.
College of Physicians and Surgeons, Little Rock	(1909)	75.8
University of Arkansas	(1905)	85
Kansas Medical College	(1894)	85.2
Kentucky School of Medicine	(1896)	75
Flint Medical College	(1909)	80, 87.8
Maryland Medical College	(1903)	86.4
University of Nashville	(1908) 78.6; (1909)	88.6, 90.6
Memphis Hospital Medical College	(1901) 75; (1908) 76.2; (1909) 76.6, 77, 77, 81.8.	87.2;
Vanderbilt University	(1894)	83.6
University of the South	(1901)	80.4

FAILED		
Louisville Medical College	(1903)	63.4
Memphis Hospital Medical College	(1891) 29.2; (1908)	64.4
Meharry Medical College	(1909)	73.6

LICENSED THROUGH RECIPROCITY		
College	Year Grad.	Reciprocity with.
Washington University, St. Louis	(1907)	Missouri

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

SEMELINCIDENCE

To the Editor:—The suggestion of Dr. T. L. HAZZARD (THE JOURNAL A. M. A., Nov. 13, 1909, liii, 1658; Sept. 18, 1909, liii, 963) to adopt the term "semelincident" to designate diseases that do not recur, is a good one. We think largely in words, and if this word with its significance is put clearly before the profession, something may be accomplished to explain practically certain phases of immunity.

As Dr. Hazzard intimates, the word is not entirely new, though apparently not in the dictionaries. My recollection is that I heard it as an undergraduate student, over twenty years ago. At any rate it was familiar to me at least as early as 1902, when it was used in a classification of infections and I have used it in a number of published articles.

The term "immunifacient" is also an excellent one, but of somewhat different meaning, as a number of diseases, such as diphtheria and influenza, are self-limiting, and immunize against themselves for a time. Whether there is an essential difference between the immunities thus produced or whether there is merely a difference in degree, is an important question.

Another interesting problem is with regard to a group of rare diseases of high mortality, such as cerebrospinal fever, equinia, tetanus, anthrax, etc. By the law of chance, a repetition of such a disease would be extremely rare but it is possible that large series might show statistically whether there is really a semelincidence.

A few diseases, like pneumonia, diphtheria and rheumatism, are said to predispose to recurrences but there seems to be some question as to the exact nature of the infection in the first and as to the infectiousness of the last while the predisposition in diphtheria is probably due to a chronic throat lesion.

Certain infections, such as tuberculosis, leprosy, syphilis and the malignant neoplasms, if these be due to micro-organisms, do not tend to spontaneous recovery so that immunization with germ products is not to be expected *a priori*, though one must always yield to the argument of fact. The old idea of "exhaustion of the soil" in the case of semelincident diseases is now commonly ridiculed but it must be admitted that in a crude, practical way, it represents a fact. Indeed, the expression is to be criticized rather from the agricultural than from the bacteriologic side. The modern theory of immunity may, with similar crudity, be interpreted as implying that the semelincident disease, instead of exhausting the soil, adds something to it, which prevents the further growth of a particular kind of germ, vegetable or animal as the case may be, without interfering either with normal physiologic processes or the growth of other germs. When we contemplate the fact that this process of addition or subtraction, may be repeated for half a dozen different diseases for the same individual without any apparent effect on his physiology, we are face to face with a very puzzling problem. *A priori*, "exhaustion of the soil" does not impress me as any more ridiculous than the opposite action and the exact nature of the alteration requires careful study, without reference to the popularity or authority of any hypothesis. A. L. BENEDICT, M.D., Buffalo.

The Public Service

Medical Department of the Army

Changes for the week ended Nov. 20, 1909:

Lyster, Theodore C., major, relieved from duty with the Isthmian Canal Commission, December 22; will proceed to the United States for orders.

Thornburgh, Robert M., capt., order for duty at Army General Hospital, San Francisco, revoked.

Wilson, James S., major, order for duty at Military Prison, Alcatraz Island, Cal., revoked; will proceed at the expiration of his present leave of absence to Fort Ethan Allen, Vt., for duty.

Kendall, William P., major, when relieved at Fort Ethan Allen, Vt., will proceed to Fort Riley, Kan., for duty.

Harris, Jesse R., capt., granted sick leave of absence for 3 months.

Hill, Eben C., 1st lieut., granted sick leave of absence for 21 days.

Lyster, William J. L., major, ordered from San Francisco, to Fort Oglethorpe, Ga., for duty.

Keefer, Frank R., major, granted leave of absence for 1 month, 7 days.

Ewing, Charles B., major, retired from active service, having been found disqualified for promotion.

Howard, Deane C., major, Ekwurzel, George M., capt., Keller, William L., capt., and Richardson, William H., 1st lieut., relieved from duty in Philippines Division; will sail February 15, for San Francisco.

Brown, Ira C., 1st lieut., M. R. C., ordered to proceed at the expiration of his present leave of absence to Fort Lawton, Wash., for duty.

Campbell, George F., 1st lieut., M. R. C., granted leave of absence for 3 months.

Jarrett, Arthur R., 1st lieut., M. R. C., granted leave of absence to December 29.

Norriss, Henry C. R., 1st lieut., M. R. C., ordered to active duty; will proceed to Vancouver Barracks, Wash., for duty.

Maguire, Daniel F., 1st lieut., M. R. C., ordered to active duty; will proceed to Fort Myer, Va., for duty.

Barney, Fred M., 1st lieut., M. R. C., relieved from duty at Fort Myer, Va., and ordered to Fort Clark, Tex., for duty.

Lamb, William F., 1st lieut., M. R. C., resignation accepted, to take effect November 18.

Eliot, Henry W., 1st lieut., M. R. C., relieved from further duty in the Philippines Division, and ordered to proceed at the expiration of his present leave of absence to Fort McKinley, Me., for duty.

Kennedy, James S., Chase, Alpha M., and de Niedman, William F., 1st lieuts., M. R. C., relieved from duty in their present stations; will proceed February 5 from San Francisco, for Philippine service.

McCallum, Francis M., 1st lieut., M. R. C., relieved from duty at Schofield Barracks, H. T.; will proceed to San Francisco, on transport leaving Manila, P. I., February 15.

Mills, Robert H., dental surgeon, left Fort Riley, Kan., and returned to his proper station, Fort Adams, R. I.

Laflamme, Frank L. K., dental surgeon, arrived at Fort Benjamin Harrison, Ind., for duty.

Scott, Harold O., dental surgeon, ordered to Columbus Barracks, Ohio, for duty, at the expiration of his present leave of absence.

Rhoades, Rex. H., dental surgeon, relieved from duty at Columbus Barracks, Ohio, and ordered to San Francisco, in time to sail February 5 for Philippine service.

Ingalls, Raymond E., dental surgeon, relieved from duty in the Philippines Division, will sail February 15 for San Francisco.

Marshall, John S., E. and S. D. S., granted leave of absence for 3 months, when relieved from Philippine service.

Medical Corps of the Navy

Changes for the week ended Nov. 20, 1909:

Pickrell, G., surgeon, detached from duty in connection with fitting out the *Solace* and ordered to command that vessel when placed in service.

Streets, T. H., medical director, placed on the retired list from Nov. 20, 1909.

Blackwell, E. M., surgeon, detached from the Naval Academy and ordered to duty in connection with fitting out the *Solace*, and to duty on board that vessel when placed in service.

Holcomb, R., surgeon, detached from the Naval Hospital, Norfolk, Va., and ordered to duty in connection with fitting out the *Solace*, and to duty on board that vessel when placed in service.

Garton, W. M., surgeon, detailed from the *Ohio* and ordered to the Naval Hospital, Norfolk, Va.

Angeny, G. L., surgeon, ordered to the Naval Recruiting Station, Baltimore.

McDonnold, P. E., P. A. surgeon, detached from the Naval Academy and granted sick leave for 3 months.

Vickery, E. A., P. A. surgeon, detached from the Naval Hospital, Boston, and ordered to duty in connection with fitting out the *Solace*, and to duty on board that vessel when placed in service.

Schmidt, L. M., asst.-surgeon, detached from the Navy Yard, Charleston, S. C., and ordered to duty in connection with fitting out the *Solace*, and to duty on board that vessel when placed in service.

Clark, G. F., asst.-surgeon, detached from the Naval Recruiting Station, Baltimore, and ordered to duty in connection with fitting out the *Solace*, and to duty on board that vessel when placed in service.

Brister, J. M., P. A. surgeon, ordered to the Naval Academy.

Streets, T. H., medical director, detached from duty as a member of the Naval Retiring Board, Washington, D. C., and ordered home to wait orders.

Heiner, R. G., P. A. surgeon, detached from the *Albany* and ordered to the Navy Yard, Mare Island, Cal.

Public Health and Marine-Hospital Service

List of changes for the seven days ended Nov. 17, 1909:

Cobb, J. O., surgeon, granted 1 day's leave of absence, Nov. 11, 1909, on account of sickness.

Wertenbaker, C. P., surgeon, directed to report at the Bureau November 15, 1909, on special temporary duty.

Lavinder, C. H., P. A. surgeon, detailed to represent the Service at the meeting of the Chicago Medical Society, to be held in Chicago, Nov. 24, 1909.

Parker, H. B., P. A. surgeon, directed to report at the Bureau Nov. 19, 1909, on special temporary duty.

Corput, G. M., P. A. surgeon, granted 5 days' leave of absence from Nov. 12, 1909.

Fox, Carroll, P. A. surgeon, granted 10 days' leave of absence en route to station.

Goldberger, Joseph, P. A. surgeon, directed to proceed to Mexico City, Mex., on special temporary duty.

Lloyd, B. J., P. A. surgeon, granted 5 days leave of absence from Oct. 19, 1909.

Francis, Edward, P. A. surgeon, granted 2 days' leave of absence while en route to places mentioned in Department orders of Nov. 9, 1909.

Ebersole, R. E., P. A. surgeon, directed to report to the medical officer in command at San Francisco, for duty and assignment to quarters.

Bryan, Wm. M., asst.-surgeon, granted 30 days' leave of absence from Nov. 27, 1909.

Stiles, Ch. W., chief, Division of Zoology, Hygienic Laboratory, detailed to attend the meeting of the New Jersey Sanitary Association, to be held in Lakewood, N. J., Dec. 3-4, 1909.

Hunt, Reid, chief, Division of Pharmacology, Hygienic Laboratory, detailed to attend the meeting of the Council on Pharmacy and Chemistry of the American Medical Association, to be held in Chicago, Nov. 12-13, 1909.

Bailey, C. A., acting asst.-surgeon, directed to proceed to St. John N. B., on or about Nov. 25, 1909, for medical examination of aliens.

Cheney, E. L., acting asst.-surgeon, granted 21 days' leave of absence from Nov. 16, 1909.

Houghton, M. W., acting asst.-surgeon, granted 5 days' leave of absence from Nov. 15, 1909.

MacCaffry, W. B., acting asst.-surgeon, granted 2 days' leave of absence in October, 1909, under paragraph 210, Service Regulations.

Ransom, S. A., acting asst.-surgeon, granted 30 days' leave of absence from Nov. 11, 1909.

Rodman, J. C., acting asst.-surgeon, granted 5 days' leave of absence from Nov. 17, 1909.

Simonson, G. T., acting asst.-surgeon, granted 2 days' leave of absence from Nov. 18, 1909.

Brinckerhoff, W. R., asst. director, Leprosy Investigation Station, granted 30 days' leave of absence from Dec. 2, 1909.

Wilbert, Martin I., technical asst., Hygienic Laboratory, detailed to attend the meeting of the Council on Pharmacy and Chemistry of the American Medical Association, to be held in Chicago, Nov. 12-13, 1909.

BOARDS CONVENED

Board of medical officers convened to meet at the Marine Hospital, San Francisco, for the purpose of making a physical examination of two officers of the Revenue-Cutter Service. Detail for the board: Surgeon James M. Gassaway, chairman; Assistant Surgeon S. C. Hotchkiss, recorder.

Board of medical officers convened to meet at Astoria, Ore., for the purpose of making a physical examination of an officer of the Revenue-Cutter Service. Detail for the board: Passed Assistant Surgeon J. M. Holt, chairman; Acting Assistant Surgeon Jay Tuttle, recorder.

Board of medical officers convened to meet at the Marine Hospital, Key West, Fla., for the purpose of making a physical examination of an officer of the Revenue-Cutter Service. Detail for the board: Surgeon E. K. Sprague, chairman; Acting Assistant Surgeon S. D. W. Light, recorder.

Health Reports

The following have been reported to the Public Health Service, during the week ended Nov. 19, 1909:

SMALLPOX—UNITED STATES

California: Sacramento, Oct. 17-23, 1 case.
Georgia: Macon, Oct. 30-Nov. 6, 3 cases.
Illinois: Danville, Oct. 30-Nov. 6, 2 cases.
Kansas: Kansas City, Oct. 30-Nov. 6, 1 case.
Kentucky: Lexington, Oct. 24-30, 1 case.
Minnesota: Duluth, Oct. 30-Nov. 6, 1 case.
Mississippi: Holly Springs, Oct. 30-Nov. 6, 3 cases.
Montana: Butte, Oct. 23, 7 cases.
Tennessee: Memphis, Oct. 30-Nov. 6, 3 cases.
Texas: Eagle Pass, Oct. 24-30, 3 cases.
Washington: Bellingham, Oct. 24-30, 2 cases.
Wisconsin: La Crosse, Oct. 30-Nov. 6, 1 case; Milwaukee, 6 cases.

SMALLPOX—FOREIGN

Argentina: Buenos Aires, Aug. 1-31, 23 deaths.
China: Shanghai, Sept. 27-Oct. 3, 1 death.
Chile: Valparaiso, Oct. 9-16, 2 cases.
Gibraltar, Oct. 18-24, 1 case.
Hungary: Budapest, Oct. 3-9, 1 death.
Italy, general, Oct. 18-24, 58 cases; Naples, 9 cases, 1 death.
Mexico: Acapulco, Oct. 19-25, 1 case, in vicinity; Medellin, Oct. 31, 1 case; Orizaba, present; Puebla and present along the lines of railroad, present; Veracruz, Oct. 24-31, 2 cases, 3 deaths.
Persia: Meshed, Sept. 4, present.
Philippine Islands: Iloilo, July 1-Aug. 31, 237 cases, 142 deaths.
Russia: Warsaw, Sept. 12-18, 6 deaths.
Spain: Barcelona, Oct. 19-25, 1 death; Valencia, Oct. 17-23, 1 case; Vigo, present.
Turkey: Bagdad, Sept. 17-25, present; Constantinople, Oct. 18-24, present.

CHOLERA

China: Amoy, Sept. 26-Oct. 9, 65 deaths; Kulangsu, Sept. 26-Oct. 2, 3 deaths; Shanghai, present.
India: Bombay, Oct. 6-12, 3 deaths; Calcutta, Sept. 26-Oct. 2, 8 deaths; Negapatam, Sept. 11-17, 3 deaths.
Java: Batavia, Sept. 26-Oct. 2, 17 cases, 1 death.
Japan: Kyoto, to Oct. 26, 200 cases, 98 deaths; Mojl, Oct. 16, 4 cases; Shinkoku (island), Matsuyama, Oct. 20, present; Wakamatsu, Oct. 16, present.
Korea: Epidemic along the Yalu River; Chemulpo, Sept. 28-Oct. 9, present; Pyeng Yang, present; Seoul, Sept. 19-28, 1,072 cases, 651 deaths.
Manchuria: Dalny, Oct. 3-9, 1 case.
Netherlands: Utrecht (province), Jaarsfeld, Oct. 20, 1 case, 1 death.
Philippine Islands: Manila, Sept. 12-Oct. 9, 73 cases, 58 deaths; Provinces, 1,004 cases, 741 deaths.
Russia, general, Oct. 3-10, 570 cases, 254 deaths; St. Petersburg, Oct. 17-22, 116 cases, 35 deaths.

YELLOW FEVER

Ecuador: Guayaquil, Oct. 1-15, 13 cases, 4 deaths.

PLAGUE

British East Africa: Kisumu, July 10-Aug. 24, 12 cases, 12 deaths.
Chile: Antofagasta, Oct. 16, present; Iquique, present; Mejillones, present.
China: Amoy, Sept. 26-Oct. 9, 71 deaths.
Ecuador: Guayaquil, Oct. 1-15, 16 deaths.
India, general, Sept. 26-Oct. 2, 4,377, cases, 3,469 deaths; Bengal, 48 cases, 31 deaths; Bombay, Sept. 22-28, 24 deaths, present; Calcutta, Sept. 26-Oct. 2, 11 deaths; Rangoon, 5 deaths.
Japan: Kobe, Oct. 3-16, 28 cases, 21 deaths, present; Shinkoku (island), Kochi, Oct. 20, present; Matsuyama, present.

Marriages

EMIL AMBERG, M.D., to Miss Cecile Siegel, both of Detroit, Mich., November 16.

ALBERT I. CIVINS, M.D., to Miss Bertha Zeupnyik, both of Cleveland, Ohio, October 19.

ARTHUR EDISON GAMMAGE, M.D., Chicago, to Miss Myra Gillis of Rio, Ill., November 4.

JOHN J. C. ROSS, M.D., to Miss Belle Ratcliffe, both of Bloomington, Ind., November 4.

JULIUS ARTHUR TOREN, M.D., McCook, Neb., to Miss Ethel Ida Midgeley at Chicago, October 27.

HARRY C. WEBER, M.D., Louisville, Ky., to Miss Edna E. Hill of Memphis, Tenn., November 4.

HARRY STUCKERT, M.D., Doylestown, Pa., to Miss Lilian Radcliff of Philadelphia, November 10.

WILFRED HUESTON, M.D., Nashwauk, Minn., to Miss Florence Weber of Milwaukee, Wis., recently.

LOUIS C. LEHR, M.D., Washington, D. C., to Miss Sallie Howard Conrad, at Baltimore, November 9.

DAYTON C. WIGGIN, M.R.C., U. S. Army, to Miss Marion V. Williamson of Washington, D. C., November 10.

HAROLD BLAKE JUSTICE, M.D., Sapulpa, Okla., to Miss Shirley Louise Mouck of Morrison, Ill., November 7.

FREDERICK W. SHAW, M.D., Kansas City, Kan., to Miss Elizabeth Martin of National Military Home, Kan., November 10.

Deaths

James Wharton McLaughlin, M.D. Tulane University, New Orleans, 1867; a member of the American Medical Association; formerly president of the Southern Medical Association, State Medical Association of Texas, Austin District and Travis County medical societies, and the Texas Academy of Science; from 1897 to 1905, professor of medicine in the University of Texas, Galveston; and a member of the medical staff of the John Sealy Hospital; in 1907 appointed a member of the board of regents of the State University; a Confederate veteran; died at his home in Austin, November 13, aged 69.

George Seymour, M.D. New York University, New York City, 1865; a member of the Medical Society of the State of New York; for seven years a member of the Utica Board of Health; acting assistant surgeon in the army during the Civil War; a member of the staff of St. Elizabeth's, Faxton, and St. Luke's hospitals, Utica; one of the incorporators of the Utica Medical Library Association; died at his home, November 8, aged 70. The Utica Medical Library Association and the Oneida County Medical Society attended the funeral in a body.

John R. Moore, M.D. Chicago Medical College, 1873; a member of the American Medical Association; chief surgeon of the United States Steel Corporation's Lake Superior mines, local surgeon for the Chicago and Northwestern Railroad and a member of the surgical staff of the Ironwood, Mich., Hospital; was accidentally shot and seriously injured at his

V 53
1909

camp on Clark Lake, near Ironwood, November 7, and died at the Ironwood Hospital, November 13, as a result of his wounds, aged 59.

Charles Albert Palmer, M.D. Northwestern University Medical School, Chicago, 1876; a member of the American Medical Association; for seven years a member of the board of education of Princeton, Ill.; and for ten years a trustee of the township high school; twice mayor of Princeton; for a time president of the board of health; and a member of the local pension board; died at his home in Princeton, November 6, from pernicious anemia, aged 54.

John Jay Hardin Conner, M.D. University of Michigan, Ann Arbor, 1877; a member of the American Medical Association; surgeon of the Springside Coal Mining Company and Pana (Ill.) Coal Mining Company; secretary of the local pension board; formerly president of the District Medical Society of Central Illinois, and ex-secretary of the Pana Board of Health; died at his home November 10, from acute endocarditis, aged 60.

Morgan L. Bacon, M.D. Long Island College Hospital, Brooklyn, N. Y., 1872; a veteran of the Civil War; local surgeon of the Fall Brook Railroad Company; for thirteen years school director of Wellsboro, Pa.; a member of the local pension board, and health officer; died at his home in that place, November 2, aged 72.

Samuel Sherwell Carter, M.D. Long Island College Hospital, Brooklyn, N. Y., 1893; a member of the Medical Society of the State of New York; formerly a practitioner, and president of the board of health of Haverstraw, N. Y.; died suddenly in Bartlesville, Okla., where he was visiting, October 28.

Henry H. Setser, M.D. University of Louisville, Ky., 1875; formerly a member of the Indiana State Medical Association; president of the Leavenworth (Ind.) board of health, and formerly secretary of the Crawford county board of health; died at his home in Leavenworth, November 11, aged 57.

Henry Leander Bacon, M.D. Rush Medical College, Chicago, 1894; of New London, Wis.; a member of the State Medical Society of Wisconsin; a member of the local pension board, and school board; was accidentally shot and killed while deer-hunting near Rhinelander, November 8, aged 40.

Alexander R. Stephens, M.D. College of Physicians and Surgeons, Ont.; for fifty-seven years a practitioner of Collingwood, Ont.; formerly president of the Simcoe District Medical Society; died at his home Nov. 27, 1908, from senile debility, aged 84.

Hubert L. Gill, M.D. Southern Medical College, Atlanta, 1892; of Columbus, Ga.; formerly assistant to the chair of surgery in Atlanta Medical College; died suddenly at the home of his sister in Atlanta, Ga., November 11, from heart disease, aged 40.

Charles Kimball Cutter, M.D. Harvard Medical School, Boston, 1876; a member of the American Medical Association; died suddenly while prescribing for a patient in his office in Somerville, Mass., November 11, from valvular heart disease, aged 58.

William Adie Bell, M.D. College of Physicians and Surgeons, New York City, 1887; a member of the Medical Society of the State of New York; of Yonkers; died suddenly while making a professional call, November 15, from heart disease, aged 56.

Henry Martyn Northam, M.D. University of Michigan, Homeopathic College, Ann Arbor, 1893; formerly of New Middletown, Ohio; died at his home in Ann Arbor, Mich., October 31, from cerebral hemorrhage, aged 51.

Robert James Harvey, M.D. Kansas City, Mo., Medical College, 1900; Northwestern University Medical School, Chicago, 1901; of Aguilar, Colo.; died in Lamar, N. M., Aug. 10, 1908, from pulmonary tuberculosis, aged 29.

Delevan E. Blackman, M.D. University of Buffalo, N. Y., 1878; for several years a member of the attending staff of the Buffalo General Hospital; died at his home in that city, November 11, from bronchopneumonia.

Harriette C. Keatinge, M.D. New York Medical College and Hospital for Women, 1879; a pioneer woman practitioner of New Orleans; died at her home in New York City, November 11, from heart disease.

Silas Pinckney Owens, M.D. St. Louis College of Physicians and Surgeons, 1885; president of the pension board of Moberly, Mo.; died at his home in that city, November 2, from cerebral hemorrhage, aged 53.

Isaac R. Whitaker, M.D. Tulane University, New Orleans, 1858; commander of Whitaker's Scouts, C. S. A., during the Civil War; died at his home in Utica, Miss., November 6, from malarial fever, aged 75.

Samuel Thomas Howell, M.D. Jefferson Medical College, Philadelphia, 1871; a Confederate veteran; died at his home in Eden Park, Independence, Mo., July 4, from cancer of the stomach, aged 66.

Charles Carrow Thompson, M.D. Kentucky School of Medicine, Louisville, 1872; Baltimore Medical College, 1892; died at his home in Taylorville, Ill., November 4, from multiple neuritis, aged 60.

Byron B. Pettitt, M.D. American Eclectic Medical College, Cincinnati, 1893; of Oklahoma City, Okla.; died in Fort Worth, Texas, January 27, from burns received in a fire in a hotel, aged 56.

Allen Perry Johnston, M.D. Rush Medical College, Chicago, 1906; of Chicago; formerly an interne in the Chicago Policlinic Hospital; died in that institution, February 10, from pneumonia, aged 32.

Josephine Cunin, M.D. Bishops College, Montreal, 1895; L.R.C.P. and S., Edinburgh, 1895; formerly of Montreal; died at her home in St. Margaret's Bay, Jamaica, October 24, aged 48.

Albert M. Pherson, M.D. Miami Medical College, Cincinnati, 1876; a member of the American Medical Association; died at his home in Osborn, Ohio, October 7, from angina pectoris, aged 62.

Eden E. Rhodes, M.D. Medical College of Indiana, Indianapolis, 1886; a member of the Indiana State Medical Association; died at his home in Rochester, November 7, from pneumonia, aged 52.

George R. Hazlewood, M.D. Medical College of Indiana, Indianapolis, 1880; died at his home in English, Ind., November 10.

William Ferdinand Friedhofer, M.D. Cooper Medical College, San Francisco, 1893; died at his home in San Francisco, Nov. 29, 1908, from myocarditis and interstitial nephritis, aged 45.

Frank Edwin Card, M.D. University of Vermont, Burlington, 1889; formerly of North Adams, Mass.; died at his home in Providence, R. I., November 7, from pneumonia, aged 43.

Edward Allworth, M.D. Victoria College, Cobourg, Ont., 1861; one of the oldest practitioners of Essex county, Ont.; died at his home in Kingsville, November 9, aged 73.

Rolla C. Grant, M.D. New York Homeopathic Medical College, New York City, 1879; died at his home in Rochester, N. Y., November 8, from angina pectoris, aged 65.

James Davidson, M.D. University of Minnesota, Minneapolis, 1892; formerly of Duluth; died at his home in Salt Lake City, Utah, November 9, from asthma, aged 48.

William Van Bergen Ames (license, Ohio, 1896); for sixty-four years a practitioner; died at his home in Fremont, Ohio, November 6, from senile debility, aged 88.

Charles Edwin Hall, M.D. New York University, New York City, 1873; died at his home in Greenville, N. H., November 7, from cerebral hemorrhage, aged 61.

Otis Shields Sharp, M.D. Cincinnati College of Medicine and Surgery, 1884; died at his home in Dayton, Pa., October 21, from pneumonia, aged 49.

John Christofer Nahrung, M.D. Independent Medical College, Chicago, 1897; died at his home in Smithton, Mo., August 20, from nephritis, aged 79.

John T. Cox, M.D. Miami Medical College, Cincinnati, 1870; Confederate veteran; died at his home in Moberly, Mo., November 11, aged 70.

Theodore Koch, M.D. University of Berlin, Germany, 1852; died at his home in Baraboo, Wis., November 19, from heart disease, aged 81.

Addison Hawkins, M.D. Rush Medical College, Chicago, 1879; died at his home in Denver, Colo., November 8, from heart disease, aged 61.

George Morgan Clarke, M.D. Rush Medical College, Chicago, 1903; died at his home in Los Angeles, November 11, from pneumonia, aged 33.

Amy T. Mace, M.D. Harvey Medical College, Chicago, 1897; died at her home in Chicago, Oct. 15, 1908, from splenic leukemia, aged 59.

Z. Corwin Dixon (license, Ind., 1902); died at his home in Linton, Ind., November 10, from congestion of the liver, aged 54.

Nicholas G. Thomas, M.D. Washington University, Baltimore, 1868; died at his home in Apison, Tenn., November 8, aged 63.

Collins E. Ellis, M.D. University of Louisville, Ky., 1881; died at his home in Kansas City, Mo., November 7, aged 52.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

The American Medical Association, Its Work and Its Enemies

The following is taken from the November issue of the *Ohio State Medical Journal*, from the department of "Medical Economics," edited by Dr. J. W. Clemmer:

"The Ohio delegation in the House of Delegates of the American Medical Association at the June session endorsed its policy and activities as published in the proceedings. The work of the nineteen committees, of the Board of Trustees, and of the executive department, as shown by their reports, carried on in the several branches affecting the interests of the profession, displayed untiring zeal and a business capacity unsurpassed by any other great corporation. The volume of business in organization work and in scientific attainments under the management of the House of Delegates requires and exhibits the tact and talent equal to those of any other national organization or a great railway system. Any one who will study the history of the Association in an impartial manner will find that the prosperity attending the present policy and management since 1902 is unequalled by any other great system or organization.

"Of the one hundred and fifty members of the House of Delegates, many of whom have given special and continuous attention to the interests of the Association, not one withheld his endorsement of the work of the Board of Trustees in its management of the business affairs."

"There is a reason for these endorsements. The property and publishing plant are managed in a manner to best meet the demands of a great and growing association. THE JOURNAL of the Association has no equal. The list of publications is constantly growing: The *Archives of Internal Medicine*, the National Directory, bi-monthly bulletins, a digest of new remedies, besides an increasing collection of data of interest to state boards, medical societies, colleges, legislative committees and the profession in general. The facilities have been amplified every few years. It was found necessary this year to increase the capacity of the publishing plant by a large appropriation for a new building.

"All this is in the happy contrast with non-progressive methods prior to the reorganization of the association. Membership has been doubled. The combined strength of component state associations is 67,362. The profession has been organized into an active, efficient body. It has learned its duties and its rights.

"Through the councils of the Association it has been safeguarded against the frauds and imposition of trades people. The profession has become a factor in matters of politics and sociology. Its influence is felt in state and national legislation. The medical interests of the people are made an essential factor in professional organization.

"The work of the national Association has been directed along many channels. Note the progress in medical education by improvements forced on medical colleges; note the public instruction on medical subjects by publication and a special lecturer; note the splendid work of the Council on Pharmacy and Chemistry, a work of far-reaching importance to both the profession and the laity; note the benefits that accrue to the efforts being directed to such subjects as patents and trade marks, regulation of membership in component societies, drug reform, defense of medical research, elaboration of ethical principles, etc.

"One of the most important labors conducted by the American Medical Association, that of national legislation for the public health defense, is altruistic, pure and simple, and under the leadership of our own Dr. Charles A. L. Reed. The character of this work is exampled by his activities and address before the National Association of State Food and Dairy Commissioners at its St. Louis meeting. He stood like a stone wall on the benzoate of soda question, in defense of our parent organization and the public, against the brazen coalition of manufacturing and political interests.

"In brief, all the officers and committees, bureaus and councils representing the government of the American Medical Association are accomplishing a stupendous work for the good of American medicine. The published transactions of the House of Delegates are convincing of the scientific worth and moral integrity of this work.

"The opposition of charlatans, healers and moneyed interests naturally attends the labor of the American Medical Association in the advancement of professional and public health interests." "It is to be expected that the American Medical Association will always have its enemies in and out of the profession. It is also expected that members of the organized profession will show their alliance and their allegiance to the parent organization. Members of other organizations are loyal to the principles and precepts of official regulation. Representation of component societies is provided to correct misrule. Any county society has an influence in the governing body of the American Medical Association. Each state association is represented by chosen delegates. These are the sources of our strength (or weakness) as a national organization. Progress or failure is compassed by the authority vested in state representation. Reformation of 'despotism' must issue from the same authority.

"Any one from the housetops of the profession may do much to create misunderstanding and confusion among the rank and file of a large membership. The question with the profession is whether it will give ear to such representation or trust its selected delegates. The component state associations should hold their delegates in the national body responsible for the government of that body. If definite results or changes are desired in the affairs of the American Medical Association the state association should so instruct its delegates. The recommendations for such changes would imply a careful study of the entire subject. Unbiased investigation, however rigid, can only result in good. Any suggestions for improvement of the national association which the present management or the House of Delegates may have overlooked, its members would gladly consider. On the other hand this body could not consider the grievances and complaints put in motion by any insurgents.

"The support of the American Medical Association by its large membership, if loyal to its best interests and continued progress, must adopt constructive and not destructive means. The national association will continue to be what representatives of component organizations make it and not what its enemies are striving to make it. Progress of American medicine as represented by the American Medical Association in the future as in the past, will be an index to its work. It needs no defense; it simply needs to be understood."

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
BOWLING GREEN, KENTUCKY

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Fourth Month—First Weekly Meeting

GENERAL SUBJECT FOR THE MONTH: INFLAMMATIONS AND INFECTIONS OF THE UTERUS AND APPENDAGES

ANATOMY

UTERUS: Form, size, position, important relations. Ligaments, broad, round, uterosacral. Structure, cervix, body, serous, muscular and mucous coats. Attachments of vagina to cervix. Arteries and veins, nerves. Lymphatics.

FALLOPIAN TUBE: Position, portions, structure, blood supply. Broad ligament, structure, relations, contents.

OVARY: Shape, size, position, relations, ligaments. Structure, functions. Blood and nerve supply, lymphatics.

INFLAMMATIONS OF THE UTERUS

ACUTE METRITIS

CLASSIFICATION OF METRITIS: (a) Etiological, parturition, trauma, bacteria, etc.; (b) pathological, catarrhal, suppurative, granular, ulcerative; (c) anatomical, endometritis, myometritis, parametritis, perimetritis.

ETIOLOGY OF ACUTE METRITIS: Predisposing causes, menstrual congestion and suppression, displacement, trauma, parturition, etc. Exciting causes, gonococcus, staphylococcus, streptococcus, etc. Secondary to vaginitis, etc.

PATHOLOGY: Gross changes in uterus, changes in mucous, muscular and peritoneal coats, in lymph channels and blood-vessels. Variations in intensity of infection, extension to surrounding structures.

SYMPTOMS: Temperature, pain, painful urination and defecation, amenorrhea, leucorrhea, enlarged tender uterus, etc.

TREATMENT: Palliative, rest in bed, anodynes, douches. Expectant indications. Surgical indications and technic for curettage, for vaginal section.

V 53
1909

REFERENCE BOOKS FOR THE MONTH

Dudley: Principles and Practice of Gynecology.
Ashton: Practice of Gynecology.
Montgomery: Practical Gynecology.
Reed: Text-book of Gynecology.
Webster: Diseases of Women.
American Text-book of Gynecology.

Society Proceedings

COMING MEETINGS

American Physiological Society, Washington, D. C., December 28-30.
Southern Surg. & Gynecological Assn., Hot Springs, Va., Dec. 20-21.

AMERICAN PUBLIC HEALTH ASSOCIATION

Thirty-seventh Annual Meeting, held at Richmond, Va., Oct. 19-22, 1909

(Concluded from page 1762)

Teaching Hygiene in Elementary Schools

MISS ISABELLE F. HYAM, Dorchester, Mass.: The state has taken on itself the education of the children, and it seems reasonable that as much attention should be given to the child's body as to its mind. Children can rarely change their own environment, but in many ways they can control their lives in an effort at better living, if they are properly prepared. The school-house and school-room should be examples of cleanliness, and afford every means to help the child to live. It would seem hopeless to teach hygiene when the child has but to look about and see filth. The child is the center of his little world, and is most closely concerned with the home. The facts in the home are care of the home, furniture, food and its preparation, hygienic clothing and personal hygiene. The first lesson in ventilation is that there must be an outlet for the foul air at the top of the room, which can be illustrated and emphasized in a cardboard of block house. Scientific impersonation plays a large part in the education of the child. For some children who are physically unfit only the open-air school is proper. They learn to love the open air, and the benefits of such a school are obvious. Health is fundamental and in the school the child should be trained in habits of health. In order to accomplish this end conditions in the school-room must be wholesome. The school should be well-lighted and the air fresh. There should be time for play out of doors and facilities for bathing.

School Instruction in Hygiene and Sanitation

DR. JOHN W. RICHIE, Williamsburg, Va.: I shall refer only briefly to hygiene, limiting the scope of my remarks to the public school, between the fifth grade and the high school. The teaching of sanitation has proved a great success because it is made so simple that it can be taught to pupils below the high-school age. We force the pupil to examine everything and state the conclusions to be drawn from the evidence, and when the pupil accepts as facts what his own reason tells him is true, this is called the open-mindedness of youth. Much good can be done by teaching the facts as to a few specific diseases. Pupils need to be taught about the microscope, and plants and animals that grow in the body and cause disease. They need to be taught something of the defense of the body against germs in order that it may not seem a monstrous thing to put matter from a cow into the human body. They must be made to understand that food and fresh air are more important than "patent medicine." My experience has been that it is a perfectly simple matter to give the theoretical background to children, and he who would shorten the subject by omitting the simple remedy is in danger of breaking the circuit altogether. Everywhere we find intelligent people who believe in sanitation, but even among those people there is ignorance of the simplest principles of bacteriology. They seem to have no idea of what a real disease germ is, but burden themselves with useless precautions. For instance, they filter the water from the roof to free it of typhoid fever germs, overlooking entirely the closet in the back yard. The subject of sanitation should be allowed sufficient time to give pupils some understanding of the subject, and the pupils should be liberally supplied with printed matter for study. Bulletins should be sent to the teachers as well as to the pupils. This teaching has a decided effect in educating the parents as well as the children. The public drinking cup disappears quickly where sanitation is taught. The old hygiene was not practicable, but the new hygiene is practicable, and we should see to it that in teaching hygiene the conditions should be hygienic in the school-room.

The Way to Study Hygiene in the Normal Schools

DR. ADRIAN DE GARAY, Mexico City: The difficulty in this matter has always been as to the manner and form in which such knowledge is promulgated. It is necessary to give the best instruction to all the world, but above all in the primary schools. It is in a condition of health that the citizen becomes of value to the country. There should be two courses of hygiene, one general and the other special, each taught with thoroughness. We should try to make hygiene as well as other studies as practical and interesting as possible. Practical instruction can be given in three ways, the chemical and bacteriologic laboratories, by excursions and study in such places as theaters, water-supply houses, public buildings, etc., and by hygienic amusements. Hygiene should be one of the principal subjects taught in normal schools; it should be studied during the last part of the term; instruction should be given in an entirely practical and agreeable manner, laboratories established and hygienic trips organized.

Instruction in Personal and Public Hygiene in the Medical College

DR. F. F. WESBROOK, Minneapolis: Those in public health work are hard on the doctor, although we realize his difficulties, and we recognize that he has perhaps been the leading spirit in all the advances of hygiene. I am a teacher, and not a practitioner, yet I wish to pay my tribute of respect to the medical profession, which, through the American Medical Association, is doing its best to raise the standard of the profession by seeing that none may enter who are not well prepared. It is the desire to prepare the medical man to regulate matters, in conjunction with other forces with which he will come in contact, very much more than he has done in the past. While we do not expect to make them all medical hygienists, we do expect to prepare them to work with such forces as we have represented here.

Results of Federal Control of Viruses, Serums, Toxins and Analogous Products

DR. JOHN F. ANDERSON, Washington, D. C.: The results of Federal control have been: (1) Manufacturers have been required to put their barns, stables and laboratories into sanitary condition. (2) There has been complete separation of tetanus and tuberculosis work from the work of producing diphtheria antitoxin. (3) All establishments are required to be equipped with proper laboratory facilities. (4) Each lot of virus is required to be examined bacteriologically, and a special test made for tetanus bacilli, and detailed records kept of such examination. (5) The sale of the old style "dry" lymph points is no longer allowed. (6) All animals used for propagation of vaccine virus are required to be autopsied, and if the animal has been suffering from an incurable disease the virus is not allowed to be sold. (7) All serums are required to be examined where standards have been established for toxic contamination, and correctly labeled, and to state the date beyond which they cannot be expected to yield their specific effects, and to contain no excessive amount of preservatives. (8) Standards for diphtheria and tetanus antitoxins have been established.

How an Enlarged and Uniform National Health Administration May be Secured

DR. JOSEPH Y. PORTER, Key West, Fla.: The phantom of offended dignity has often arisen in the past to arouse sus-

picion of improper interference when the Federal government, through interstate commerce, has stopped to interpose authority, even in an advisory manner in the management of public health matters. This is true to-day, particularly in Massachusetts, Ohio and Illinois, in reference to sanitary matters, and the control of disease-producing conditions within their confines. By advocating an enlargement of the powers of the general government in health control throughout the country which shall be uniform and impartially administered in all sections of the country, it is not herein desired that the arguments advanced or the opinions expressed shall be understood as recommending or advising that the health police powers of a state shall be abridged or superseded by the general government, but rather that some of the difficulties in the present system of administration may be remedied and the awkwardness of many existing conditions corrected.

Tuberculosis from a Maritime Prophylactic Point of View

DR. ANTONIO MATIENZO, Mexico City: Having demonstrated that tuberculosis is a social danger, and that it finds at sea excellent conditions for the breeding of the germ which propogates it, I would propose that an office for medical inspection be established in the principal ports under the control of the sanitary authorities, fully authorized to examine every passenger, and to require steamship companies to establish in all their ships a special department with berths for tuberculous children. The infection of the air having been proved, this is all which should occupy the attention of the hygienist. All people should be prevented from expectorating on the floor and in the berths, and for all tuberculous passengers there should be placed some concise precepts in the room relating to the danger of expectoration to the patient himself as well as to every one else.

What May be Done to Improve the Hygiene of the City Dweller

DR. S. A. KNOPF, New York City: It is by thorough training of ourselves as physicists and sanitarians, the awakening of statesmen and philanthropists to their duties regarding public health and public welfare, the education of employer and employees, of the men and women of all classes of society, in general and personal education of the child at school and the practical application of the combined knowledge and experience gained in modern society, pedagogy and medicine that we may hope to make of the child of to-day the citizen of to-morrow, the ideal man or women, strong, healthy and vigorous, noble and even beautiful to behold. The general hygiene, which concerns all classes alike is that part for which federal, state or municipal health authorities, through their agents or officers, must be held responsible. There should be a more thorough method of cleansing glasses and spoons at soda fountains, and the placing of cuspidors where they can be used. The leather straps in the street cars should be replaced by celluloid straps. The average child should not be sent to school before eight or nine years of age and every city should have an abundance of outdoor playgrounds. Thousands of acres of roofs should be utilized for this purpose. Botanical excursions should be indulged in and respiratory exercises carried on. There is a great race suicide among the poor of New York City inasmuch as many of the children either die young or fill the schools in an undeveloped and unfit physical condition.

Prophylaxis in Exanthematic Typhus

DR. GENARO ESCALONA, Mexico: In the central table land of the Mexican Republic typhus assumes an endemic form; the mortality reaches a very high figure. The physicians of Mexico agree that Mexican typhus presents certain characteristics that are different from the European type. The disease does not have a sudden development. There is a period of ascension and descension through irregular manifestations. Three important points may be considered: (a) The sanitation of the town; (b) the disinfection of the premises occupied by the patient; (c) the disposal of articles coming in contact with the patient. The patient should be isolated and his bed-clothing disinfected by boiling or destroyed by fire. All toilet utensils should be well disinfected and the excreta should be carried off through the drain by an abundant amount of water. The skin should be bathed and the hair cut, as well as the mucous membrane disinfected.

Transmission of Syphilis by Vaccine

DR. FRANCISCO DE BERNALDEZ, Mexico City: The Jenner or arm-to-arm vaccination against smallpox has been discredited by almost all nations because of the possibility of syphilitic inoculation. We are now well aware that in order that this may take place it is necessary to have well-studied conditions, but much care must be used in collecting the lymph. From observations already made, it is stated that the lymph must be taken from persons over three years of age, that being the age at which hereditary syphilis makes itself apparent. The vaccine pustules must be of seven days' growth because the contagious infiltrations have a longer period of incubation. The transmission of syphilis through the agency of humanized vaccine can easily be avoided if we know the conditions under which such transmission is possible. The Jennerian vaccine is to be recommended because it confers a greater degree of and a more lasting immunity.

Report on Yellow Fever in the Mexican Republic from August 25, 1908, to Date

DR. EDUARDO LICIAGA, Mexico City, Mexico. This is my sixteenth annual report as to the presence of yellow fever in Mexico. There are a number of isloated cases in different parts of the country. In Cuba native children are supposed to contract yellow fever in a mild form, and thus infect mosquitoes, thereby giving rise to isolated cases of yellow fever. The covering with oil of standing water, filling up holes, fumigation of dwelling houses and surveillance of railway passengers constitute some of the means at present employed in fighting this disease. In the ports of Coatzacoalcos, on the Gulf Coast, and Salina Cruz, on the Pacific, it is nearly four years since a single case of yellow fever has been observed.

Necessity of Isolating Syphilitic Prostitutes to Prevent the Propagation of the Disease

DR. JOAQUIN HUICI, Mexico City: The prophylaxis of syphilis is a serious and interesting question, and has given rise to a division among scientific men. This disease has caused more ravages in the human race than any other transmissible disease, not only rendering the individual useless for work, but endangering those with whom he comes in contact. A uniform set of regulations to control prostitutes should be adopted. Governments are under obligation to enact provisions tending to prevent the transmission of disease, and syphilis and gonorrhea being continually transmitted, should be included in that obligation, as public women are the principal sources of those diseases, and they are the ones to whom such provisions should be applied

Efficient Means of Checking Syphilitic and Gonorrheal Contamination

DR. JUAN BRENA, Zacatecas, Mexico: The efforts of an association like this would be fruitless without the cooperation of the social classes. In the effort for the extermination of leprosy and tuberculosis the people join spontaneously, but this is not true with reference to venereal disease. Fortunately, the conviction has grown as to the practical utility resulting from giving universal publicity to clear rules establishing the conditions which render immune communications between the healthy and venereal subjects. Pupils in schools are taught the evils resulting from the use of tobacco and alcohol, and it would be a meritorious work to instruct the older pupils regarding the deadly action of impure pleasures. Literature should be distributed explaining the gravity of these diseases, and the means of prevention. Municipal physicians and others appointed for the purpose should attend these patients free of charge and lectures on the subject should be provided for.

Scope of Public Hygiene in the Betterment of the Home Life in Towns and Cities

MR. ROBERT W. BRUERE, New York City: Every one seems to take it for granted not only that disease is curable, but

V 53
1909

that it is the business of the medical profession to cure it or to prevent it. It has been many years since the medical profession was regarded as a dispenser of medicine, and not as a preventer of disease, more particularly social disease. Last year there were 10,147 deaths from tuberculosis in New York, and about the same number the year before. The death-rate from other diseases has greatly decreased during the past seven years in New York, but this has not been the case with tuberculosis. Last year one association had charge of 4,000 infants, and everything was done that was possible by simple education and the teaching of hygiene to reduce mortality. The great difficulty encountered was that the mothers were not able to purchase the food that those children required; 10 per cent. of them were forced to earn wages away from home, and over 73 per cent. of the mothers belonged to families where the income was less than $15 a week. That is $300 or $400 less than the Committee on Standard of Living maintains is necessary for the average family. The medical profession has done much to teach the world that disease can be successfully prevented only when it is attacked by an organized community, but I believe that the death rate cannot be cut below 10 per cent. until the problem of the poverty of the worker is attacked.

Scope of Public Health in the Prevention of Dependency

MR. HOMER FOLKS, New York City: Public health work includes both the education of the individual and the community, and if the work could be carried on comprehensively, efficiently and adequately the number of dependents would be greatly reduced. Ill health is a prolific cause of poverty, whether due to individual or social causes. The first strong movement in New York for the prevention of tuberculosis was organized by a society concerned with the relief of the poor. Much remains to be done in the prevention of typhoid, while diphtheria, whooping-cough and scarlet fever are gradually being brought under control. We shall not make prominent headway against alcoholism until we have the support of public health authorities. The movement for the prevention of venereal diseases, from which the public-health authorities cannot much longer hold aloof, must ultimately result in a great lessening of the demand on our hospitals, institutions for children, institutions for the blind and insane asylums.

Sanitary Requirements of Ventilation

DR. W. A. EVANS, Chicago: Good air is the most important problem before health departments. Ten thousand deaths a year from bad meat, bad water or bad milk would produce a world-wide scandal, yet we accept 10,000 deaths from bad air with complacency. The following are the basic sanitary principles of ventilation: 1. Attention must be concentrated on the habitual zones of a room, meaning a space from 4 feet above the floor to 6½ feet above. 2. Dead zones and corner eddies must be encouraged as settling places for bacteria. Such spaces must be cleaned daily with moist methods. 3. The breathing zone must be occupied by an even-up current of air, moving at the rate of at least 60 feet a minute from multiple floor inlets to multiple floor outlets. The temperature of the air reaching the breathing zone should never be higher than 80° F. and is better if it is under 70°. 4. The ventilating air should never enter the room at more than 40 degrees below body temperature. 5. Air ducts must be short. 6. No particular attention should be paid to humidity. 7. The volume of air per quiet person per hour should be five hundred feet. 8. Under no circumstances should the windows be fixed, but a gale of wind should be allowed to blow through each twenty-four hours.

Ventilation of Industrial Establishments

DR. C. T. GRAHAM ROGERS, New York City: The Department of Labor of the State of New York has done much toward the betterment of public health in that state, besides which the Commissioner of Labor has sent a representative of the department to participate in this meeting. Some 430 separate air tests were made during six months of the fiscal year 1908, and a complete tabulation of the results may be found in the Eighth Annual Report of the Commissioner of Labor. Great strides have been made in improving the ventilation of schools and dwellings, but comparatively little progress has been made with the factories. It is to be hoped that some means will be secured to impress the laity with the importance of the subject. Inspections have been made of the New York bakeries, potteries, polishing and buffing rooms, tailor shops, cigar factories, clothing shops, jewelry stores, department stores and others. The cry in the past has been for more light, but now it is for more air. We need both, increasing the resistance of the body to disease, and making the nation stronger physically, mentally and morally.

Cooperative Efforts in Supervision and Control of Milk Supply

DR. F. D. BELL, New York City: The Board of Health of New York City requires a permit from every milk dealer in the city, and if the dealer does not conduct his business in accordance with the requirements he is brought into court. The average milk dealer knows little about the chemistry or bacteriology of milk, and an absolutely sterile milk is almost impossible to obtain because the public is not sufficiently educated to exact this quality of milk. The public is unwilling to pay for such a grade of milk, and the dealer and the average producer are not of a type capable of producing this quality. The average dairy farm is too small to produce milk economically and the dealers are unable to afford any systematic laboratory supervision, or proper buildings and apparatus which we have come to believe are necessary for the production of pure milk. Regulations have been promulgated with the health authorities which, if rigidly enforced, would mean that the towns would be without any milk supply at all. The dealer and health officer should consider themselves friends, and such a feeling can be brought about only by the gradual process of developing mutual confidence.

An Investigation of the Extent of the Bacterial Pollution of the Atmosphere by Mouth Spray

MR. C. E. A. WINSLOW, Brookline, Mass.: With the progress of exact knowledge sanitarians have been led to place less and less emphasis on the part played by the atmosphere in the spread of zymotic disease. It has been shown that quietly inspired air is germ free and most of the particles in the mouth spray are rather coarse and settle rapidly. It is not intended to minimize the real danger from mouth spray, as large numbers of bacilli are discharged in coughing by consumptive patients. Ziesche found in one case 20,000 tubercle bacilli on a glass plate of fifty square inches in area when exposed for half an hour from 16 to 32 inches in front of the mouth of a tuberculous patient. In workrooms, offices and such places the space between the heads of the workers should be at least three feet. This furnishes no basis for a belief that tuberculosis or any other disease is contracted to an appreciable extent through the inspired air, as the spray quickly settles and the conviction is not generally gaining ground that aërial infection of any sort is a minor factor in the spread of zymotic disease.

Sex Problems in Industrial Hygiene

MRS. FLORENCE KELLEY, New York City: It is more than one hundred years since the working people of England first began in the name of public health to get a shorter day for women. In 1847 a bill was passed in England limiting woman's labor to ten hours, but in 1895 in the enlightened state of Illinois, the Supreme Court held that it was unconstitutional to grant to women the same degree of protection. In the majority of our states it is lawful to require women to work in a factory or laundry or store any number of hours that a rush order may require. Our legal procedure is very curious. The Supreme Court is presumed to know only those items of common knowledge specifically laid before it, and it was necessary to collect some 162 pages of common knowledge. For some time there was a law in New York that girls should not work in the stores after 10 o'clock, but it was not enforced because of the claim that there were more important matters to look after. Failure to enforce this law proved in some cases just as fatal as strychnin. About twelve years ago the miners of Utah secured an eight-hour day because they worked underground, but the bakers of New York, who also work underground, failed in their efforts.

Relation of Life Insurance to Public Hygiene

DR. LEE FRANKEL, Metropolitan Life Insurance Company: In no other country of the world would it be necessary to explain the relation of insurance to industrial and social hygiene. In Europe insurance is compulsory, and in the larger European cities the great mass of citizens are insured along the line of prevention. Our company distributed 4,000,000 pamphlets, entitled, "The War on Consumption," calling attention to the fact that there are places where the individual may obtain treatment. We desire to cooperate with any agency in the community toward the prevention of tuberculosis and other preventable diseases. In Chicago we were asked to distribute copies of the ballot, which enabled the people of that city to secure a municipal sanitarium. We are now making experiments of sending a nurse to every sick policy-holder, and have been successful so far. Our policyholders are being visited weekly, and if desired this association may make use of our organization in the promotion of public health.

Scope and Value of the Daily Press and Press Bureaus

DR. JOHN A. KINGSBURY, New York City: The scope of publicity in public health is as broad as the scope of publicity in politics, and in order to be effective it must be made as striking as it is possible to make it. It is our problem in public health to arouse slumbering humanity to a full realization of the meaning of the frightful fact that disease germs cause the death of over fifty per cent. of the human race, and that in addition to this suffering and poverty which can hardly be imagined, we must convince the public that this great sacrince is almost wholly needless. It is only within the last few years that there has been any considerable demand for the knowledge given the world almost a quarter a century ago by Koch. We must learn from the "patent-medicine" man his secrets of publicity. The trouble so far is that all the money that has been given in this field of work has been put into the manufactory department and the advertising end of the business has been almost entirely neglected. We must get our goods into circulation. Moreover, there is a lack of proper cooperation between the producing and developing departments of our work. The American Public Health Association has long been in the business of producing knowledge of inestimable value. If advertisements can create new wants and new desires the satisfaction of which builds up business for others, surely practical publicity can create a demand for such knowledge, and the nature and scope of such work would be limited only by its ability to get results.

The Physiologic Aspects of Ventilation

DR. THEODORE HOUGH, University of Virginia: There is no argument against the hygienic importance of ventilation. The history of the subject shows that it is not so simple as is often supposed. The poisonous material in the air of the room does not come from the lungs but from the skin, clothing, decaying food particles in the mouth or catarrhal exudates, from the air passage. It is important to distinguish between the acute effects following exposure to vitiated air and those effects which are produced by prolonged exposure. The toxic material, so far as it is a factor, does harm chiefly when it acts over a comparatively long period, and we must seek elsewhere the explanation of the acute effect. While the introduction of fresh air is of great importance in removing the unfavorable physiological factors, it is even of more importance to maintain an even temperature of from 68 to 70° F., since at this temperature the humidity is almost negligible, while the other ill effects, especially on the nervous system, seem to be less noticeable and less important.

Age Problems in Industrial Hygiene

DR. OWEN R. LOVEJOY, New York: In many states we are embarrassed by the attempt to secure the enactment, and after that the administration of laws regulating the ages at which children shall be employed, because of the fact that it is impossible to tell when the ages began. The relation of age to industrial employment needs no discussion, yet we constantly meet ignorant people who think that a child is a small man, and that burdens which are proper for the man are proper for the child, if measured according to the child's age. There is a period between 10 and 16 that is so revolutionary in its nature as scarcely to be exceeded by the needs of the infant. It may be safely predicted that the awakening to the dangers of typhoid and other diseases will in another decade make the health department one of the most important, if not the most important department in any of our city governments. It has been assumed that the best employment for the child is agricultural, but it has been shown recently that on many truck farms conditions prevail that are seriously detrimental to the child. Health officers should carefully study the relation of the industrial education of the community to the development of the physical life of the child.

ASSOCIATION OF MILITARY SURGEONS OF THE UNITED STATES

Eighteenth Annual Meeting, held in Washington, D. C., Oct. 5-8, 1909

(Concluded from page 1769)

How to Keep War Ships Free from Infective Diseases

SURGEON R. C. HOLCOMB, U. S. N., showed first the prevalence of contagious diseases at the large training stations and outlined for discussion a method of keeping recruiting rendezvous free from infection. The recruit goes first to the receiving division, then to the observation division and finally to the clean division, from the latter of which the drafts are selected. He advocates barracks of the bungalow type, housing six men each, and constructed with a view to ease of disinfection. With this type of barracks less men are exposed when an outbreak of disease occurs and the work of disinfection is simple and relatively easy. The records of all epidemics on receiving ships are connected with overcrowding. The training station is an outgrowth of the old-time receiving ship.

SURGEON M. F. GATES, U. S. N., discussed the reception and care of recruits received on board ship. He believed that infections should be eliminated prior to the transfer of the men to ships, as receiving stations are sometimes foci of infection. Men should be inspected immediately on their arrival. Segregation is desirable. It is most important to have history of the recruits and a separate health record for the medical officer is desirable. He spoke of the value and needs of isolation wards, deck camps for isolation, camping parties for convalescents and then took up seriatim the consideration of the communicable diseases and the prevention of their spread. The essentials for the most ideal results are alertness of the medical officer and repeated inspection.

SURGEON C. M. FISKE had assigned to him the portion of the discussion referring to the care of the crew of a ship undergoing repairs in a navy yard. Medical officers must be familiar with local hygienic conditions as to climate, food and water supply, sewage, prevalence of infectious diseases, facilities of the station, etc., and must be prepared to make recommendations prior to arrival. The limitations of naval authority in the neighborhood must be taken into consideration. The conditions which attend the repairs of a ship in a navy yard are likely to be unhealthy; infectious diseases are usually introduced. The most efficient remedy lies in the unit barracks. Evil influences are the presence of civilian workmen and visitors on board, liberty parties, the food furnished by local contractors, the non-availability of sanitary systems on board, the proximity to shore, which favors the introduction of insects and vermin and the failure of civilian authorities to control contagious disease. They should be urged to report any indisposition however trivial. Daily exercise should be required. Workmen on board should be required to observe the regulations for the safeguarding of health. Separate toilets and other facilities should be provided for civilian employees. Fresh provisions should be carefully inspected. The laboratories of local hospitals should be utilized to detect bacilli carriers. There is need of a practicable system of drainage of a ship, when in dry dock.

SURGEON D. N. CARPENTER, U. S. N., described the general and special measures for the care and protection of crews of ships in infected ports, including quarantine and sanitary recommendations, the duties of medical officers in infected ports, the sources of information regarding epidemics, the

V 53
1909

action to be taken in case infection occurs on board and the special measures to be taken in case of various national quarantinable, infectious and contagious, parasitic and venereal diseases.

The Public Health and Marine-Hospital Service

SURGEON CHARLES P. WERTENBAKER, U. S. P. H. & M.-H. Service, in his paper on "The Duties of the Public Health and Marine Hospital Service," gave an exposition in general terms of the work done by the service and showed partially the points of contact between the spheres of the different services, thus indicating what the relations of the service might be to the medical departments of the army and navy.

SURGEON GEORGE B. YOUNG, U. S. P. H. & M.-H. Service, discussed the possible relations between the Army, Navy and the Public Health and Marine-Hospital Service under the limitations of the existing law. There has never been any attempt to set forth briefly the legal status of the Public Health and Marine-Hospital Service to the other services as regards precedence, mutual support and possible interdependence in time of peace and war.

MEDICAL INSPECTOR L. W. CURTIS, U. S. N., expressed his appreciation of the assistance rendered by the Public Health and Marine-Hospital Service during the recent cruise of the American battleship fleet. Advance information was frequently given in reference to the sanitary conditions in ports at which the fleet was about to call, and in other ways, the ship's surgeons had been materially assisted in keeping disease away from the fleet.

LIEUT.-COL. G. C. JONES of the Canadian Medical Service stated that his long experience in public health work had led him to appreciate the value of the Public Health and Marine-Hospital Service, and that he had received most valuable information and assistance from the weekly reports issued by the service.

Laboratory Demonstrations

The association adjourned to the Public Health Laboratory, where the director, Passed Assistant Surgeon John F. Anderson, U. S. P. H. & M.-H. Service, described the scope work of the laboratory, and the chiefs of divisions demonstrated each his especial line of work. Afterward the members examined the laboratory and witnessed demonstrations of various kinds.

Entertainment

The entertainment provided for the members was lavish and varied. A reception was given in honor of the foreign delegates by Surgeon General Presley M. Rixey, U. S. N., president of the association, at his residence. Medical Director John C. Boyd, U. S. N., gave an informal buffet luncheon to members and foreign delegates at the New Willard. The members, foreign delegates and ladies were the guests of the president of the association and Mrs. Rixey at their summer residence, Netherfauld, Va. A mounted drill was given in the drill hall at Fort Myer through the courtesy of Col. Garrard. The Surgeon-General of the Army and Mrs. Torney gave a reception in honor of the association and its guests at the Shoreham. An automobile ride around Washington was arranged by the committee and participated in by the visiting ladies and many of the members and on the last afternoon the Surgeon-General of the Public Health and Marine-Hospital Service invited the members and guests to luncheon and an excursion to Mount Vernon on board the U. S. revenue cutter *Apache*. The women's entertainment committee held an informal reception for the visiting women at "The Highlands" and gave a luncheon for them at the New Willard Hotel.

Banquet

The official banquet in honor of the foreign visitors was given in the red room of the New Willard Hotel October 7. Covers were laid for 125. Surgeon-General Rixey, U. S. N., presided and Medical Director John C. Wise, U. S. N., officiated as toastmaster. The toast to the foreign countries represented by delegates was responded to by Sir Alfred Keogh, Royal Army Medical Corps, the senior foreign delegate, who expressed his appreciation of his cordial reception and of the hospitality of the association.

Advertisements

The executive committee decided to exclude all advertisements from the *Military Surgeon* excepting those approved by the American Medical Association. It also decided to increase the subscription price to $2.50 a year. Members hereafter will pay $3.50 per year, of which $2.50 will be applied as subscription and $1 as the annual dues.

Members Present

There were 172 who registered at the meeting. Of these 31 were representatives of the Army, 33 of the Navy, 12 of the Public Health and Marine-Hospital Service, 56 of the National Guard and Naval Reserve, 18 of the Medical Reserve Corps, 4 acting assistant surgeons, U. S. A., 3 officers of United States Volunteers and 1 Canadian officer.

MINNESOTA STATE MEDICAL ASSOCIATION

Forty-first Annual Meeting, held at Winona, Oct. 12-14, 1909

(Concluded from page 1768)

Right Inguinal Hernia and Concurrent Appendicitis

DR. WALTER COURTNEY, Brainerd: Observation of conditions found at the mouth of the hernial sac and the occasional necessity for post-herniotomy appendicectomies have led me, since 1904, to explore systematically and to remove diseased appendices through the internal ring when operating for the radical cure of right inguinal hernia. Since that time I have performed seventy-six appendicectomies in this manner. The result of this work has demonstrated the existence of concurrent appendicitis in a great majority of my cases of right inguinal hernia. As is well known, there is greater frequency of right over left inguinal hernias and the possibility of appendicitis as an etiologic factor should be considered. The operative technic offers no great difficulties in the majority of cases. The educated finger frequently can find and withdraw the appendix through the internal ring. Failing in this one or more narrow retractors may be inserted through the ring, permitting a view within the abdominal cavity; the cecum can thus be recognized by its blue or grayish color and withdrawn by rubber-tipped forceps. In only one case during the last two years did I find it necessary to go above the internal ring to explore and remove the appendix. No postoperative complications have followed this method of performing appendicectomies in my work.

DISCUSSION

DR. ARCHIBALD MCLAREN, St. Paul: I think that in the past few years many surgical men have been led to the same truth, probably in the same way as Dr. Courtney. My first experience was much the same; I found a gangrenous appendix in the hernial sac. It is always a wise thing to remove the appendix under those conditions. I have had to make the cross-muscle incision oftener than Dr. Courtney has, and that is because I have not followed exactly his line. I find that one incision is much better than two separate ones, but if there is any difficulty in reaching the cecum that is the muscle incision that will least weaken the abdominal wall and if the surgeon cannot do the work properly through one incision there ought to be two.

DR. A. T. MANN, Minneapolis: Two years ago I wrote a paper in which I mentioned the three classes in which we are liable to make a mistake. In one of the classes are the cases in which there are few symptoms, irregular, perhaps only a few symptoms of indigestion, an individual has more or less repeated attacks of indigestion that do not come from any known cause nor with any regularity that might point to any definite cause. In these cases, instead of making a diagnosis of chronic indigestion the physician should find out whether the appendix region is tender. If the patient complains of tenderness on this side then a definite examination of the appendix should be made, and if it is from the appendix the case is one of subacute exacerbation of chronic appendicitis, which may not have given further symptoms up to that point to call attention to the trouble, but which is liable to cause an acute attack and a bad attack and the appendix should be removed.

DR. R. C. DUGAN, Eyota: I have several times seen the appendix present in the hernial sac and now make a rule to obtain permission for its removal in all cases of right inguinal hernia. Such permission should be obtained in every case in which the abdomen is opened. In the future I shall follow Dr. Courtney's plan. I believe that the slight stretching of the internal ring, instead of being a menace to success, will rather be a benefit. Several times I have purposely cut the upper edge of the ring when the internal ring was round and indurated. I have had several patients complaining of sudden pain in the right side following a strain that simulated appendicitis very closely, but on passing the finger through the external ring a bulging at the inner ring could be felt. These patients are frequently cured by wearing a truss for a short time and are the only cases of hernia for which I ever prescribe a truss.

Cancers of the Cecum

DR. W. J. MAYO, Rochester: Carcinoma of the cecum usually has its origin close to the ileocecal valve, therefore both the ascending colon and cecum are involved. The lymphatic drainage extends into the lymphatic glands at the base of the right colic artery and also into the ileocolic group. For all practical purposes malignant disease of the cecum and ascending colon can be considered as one. In estimating the feasibility of removing malignant diseases of the cecum examination of the liver for embolic carcinoma should not be forgotten. In our experience hepatic secondaries have been a larger cause of contraindication to radical operation in mechanically removable tumors than inoperable glandular metastasis. Rectal examination should be made for carcinomatous nodules in Douglas Pouch, the discovery of which would indicate an operable condition. The most important feature of surgery of the cecum is the question of obstruction. The mortality of necessary operations can be closely measured by the degree and acuteness of the condition. The late acute conditions should be treated by preliminary enterostomy. If immediate resection is made in obstruction the distended proximal gut should be emptied by Monk's tube. The most important technical feature in the operation for cancer of the cecum is the mobilization of the intestine for purposes of operation. The large intestine has a long mesentery. All its blood, nerve and lymph supply lies in the inner leaf of the mesentery and arises from the abdominal aorta and vena cava or in that vicinity. It is true that the outer leaf of the mesentery is exceedingly short if not absent in the ascending colon, but as the outer leaf contains no structures of importance it is only necessary to divide it, lift any part of the colon from its bed and swing it on its inner leaf to the midline. In separating the cecum and ascending colon and ligating the blood vessels identify the duodenum and ureter.

It will sometimes be found that a neighboring viscus has become involved and attached to the malignant growth. If conditions are otherwise favorable this should not be looked on as a contraindication to operation and multiple resections are made simultaneously.

The first steps in the resection of the cecum and ascending colon are: 1. Free incision through the right rectus muscle. 2. Liberation of the cecum and ascending colon by an incision through the outer peritoneal attachment. 3. With a piece of gauze the intestine with tumor and fat is wiped clean to the muscles as far as the superior mesenteric origin of the ileocolic and right colic vessels, which are tied at once enabling an accurate dissection of the mesenteric glands and fat. 4. Clamp hepatic flexure and lower ileum at proper points and remove the diseased segment. 5. Ligation of ends and sterilization. 6. Close the bowel ends with purse-string sutures. 7. Ileocolostomy, usually lateral anastomosis. 8. Closure of the mesenteric rent and the covering of the denuded surfaces with peritoneum.

DISCUSSION

DR. ARCHIBALD MCLAREN, St. Paul: The way I have usually done is to start from the other side, but the next attempt I make shall be from the outside, because I am sure that is the practical way. In these tumors when it is necessary to make resection of the intestine my experience is that it is very unsatisfactory. I was amazed in looking over my own statistics to see how very unsatisfactory the results have been that I have obtained so far; 60 per cent of three-year cures is infinitely better than I have been able to get. Tuberculous growths are also of the same character and it is necessary to have a growth under the microscope before one can tell whether it is malignant or tuberculous in character.

SYMPOSIUM: COOPERATION OF STATE FORCES IN MINNESOTA MEDICINE

The State Board of Health

DR. H. M. BRACKEN, Minneapolis: The opportunities for cooperation between organizations interested in public health matters is almost unlimited. The forces interested in public health are:

(1) State Departments:

The Governor of the State.
The State Board of Medical Examiners.
The State Board of Health.
The State Medical Society.
The Department of Public Instruction.
The Dairy and Food Department.
The Labor Bureau.
The Live Stock Sanitary Board.
The State Board of Control.
The State Drainage Commission.

(2) Schools and Institutions:

Public Schools.
Colleges.
Normal Schools.
The University.
Medical Schools.
State Institutions.

(3) The People:

The Federation of Women's Clubs.
The Commercial Clubs.
The Labor Organizations.
The Charities Organizations.
The Municipal League.

Public health matters should be a common meeting ground for the above representative bodies and the State Sanitary Association affords the opportunity for such work. The Minnesota State Medical Association should take an interest in reaching the people through lecturers and through the county medical societies. Public health lecturers should be in the field; the tuberculosis exhibit should become a traveling exhibition rather than being specialized as now and necessary means should be obtained through the legislature for carrying on a campaign of education and meeting the necessities involved in the work. The Minnesota State Medical Association should take a deep interest in the work of the Minnesota State Board of Health, and someone should be kept at the capitol interested in legislative matters during each session of the legislature. Legislators are not well versed in matters pertaining to public health and it is easy for some selfish individual to kill a bill relating to medicine. The State University can do a great work by sending out students from the academic department with some knowledge of the principles involved in public health, while the special departments, such as medicine, law and engineering, should give their students some training in such matters.

The State Board of Medical Examiners

DR. F. A. KNIGHTS, Minneapolis: All medical forces in the state ought to be influenced by the State Association because it is in position best to voice the sentiment and further the interest of the profession in the state. Much misunderstanding has existed as to the duties of the board. Many members of this society suppose it to be the function of the board to regulate illegal and irregular practice throughout the state and legally to prosecute the offenders. This is not the case, but, recognizing its moral obligations, also the demand of the profession, prosecutions have been brought which have almost uniformly been unsuccessful. For this the board has been severely criticised. Cooperation should be promoted and

V 5
190

this effort would tend probably in the regulation of irregular practice. If Dr. McCormack were with us always he might educate the people for us and the rest would be easy. If Ramsey and Hennepin counties were sufficiently interested to assess their members from $3 to $5 each for three or four years and spend the money judiciously they could clean up the two cities. The rest of the state could be cleaned up if each member of this association would put up $1 for the same length of time. The services of an expert might be secured who should procure and collect evidence, put it in shape for use, give advice as to the best method of procedure by the county societies and spare the local men the annoyance of the thing so far as possible. This would require money, but it would be bread cast on the waters.

The State Board of Control

DR. H. C. TOMLINSON, St. Peter: I hesitate to speak of public institutions and their management, because in the eighteen years I have been a member of the Minnesota State Medical Association I do not recall ever having received a word of encouragement or any evidence of interest in the work of these institutions on the part of any member of the association. It may surprise you to know that under the State Board of Control there are over 6,000 people who require more or less constant medical supervision and that twenty-two medical men are engaged in this work. The difficulty is that when a patient is sent to one of these institutions he immediately departs from the physician's mind. This has its influence on the Board of Control. When we ask them for means to do medical work they say they have never heard a physician or medical body say anything about the necessity for such a demand. The general public is not responsible for this sort of ignorance, but it is the medical profession, you people sitting here. The State Board of Control is extremely anxious to do everything it can to help us, but it also recognizes the fact that we do not have the backing of the medical profession in any of the things we ask for. The idea seems to be that the sole function of these institutions consists in hiding certain people away from the public. We have on an average 375 operations in our institution in a year, and we have practically every form of disease, except acute contagious diseases, all the time. The members of our board are like the people from Missouri, they want to be "shown," and if the State Medical Association would cooperate with these institutions and with the authorities that control them, it would not only be an advantage to the medical profession, but to the public at large.

The University Medical School

DR. CHARLES LYMAN GREENE, St. Paul: The position and standing of the school will serve as an index to the position and standing of the medical profession of the state. The advance of medical standards has made it possible for Minnesota to achieve the unique and desirable position of having but one fully organized medical school within her borders, and that school is of the state and for the state. The school is already ranked among the best in the United States. However, there are certain needs of the school, among others the maintenance of a great state hospital on the university campus; postgraduate instruction of a practical kind; a definite department of public health; a special fund for research and the employment of research workers, and the present close relation between public health and medical teaching must be maintained and extended. A better relation must also be established between the medical school and the individual physician and a way found to teach medicine in every hamlet in the state. Minnesota was a pioneer in establishing higher standards of medical education. Sectarian medicine is disappearing throughout the United States and it is fast becoming an impossibility for anyone to practice the healing art within the narrow limits of any so-called school. Another year will see the temporary hospital structure replaced by a modern building containing at least 100 beds, which will mark the beginning of the greater hospital of the future. We of the university teaching staff are enthusiastic and confident and with your help we shall build high for the present and yet higher for the future of Minnesota medicine.

The Medical Press

DR. WILLIAM A. JONES, Minneapolis: The old-time epigram, "Between the devil and the deep sea," might easily be transposed into the following sentence: "Vast numbers of the medical press after passing through the hands of the devil find an abiding place in the deep sea—a receptacle into which the doctor often throws his medical journal unopened and unread." Literally, this is not true. A large percecntage of the medical men religiously open and read their journals and claim that they are profited thereby; but, unfortunately, there are many medical men who find too little time to read or who are indifferent to current medical literature.

Dr. Jones then considered functions to be performed by the medical press. What it means to conduct, edit and publish a medical journal, its province and duty of its readers. Matter that should be contained in a medical journal. The Minnesota State Board of Medical Examiners, the Minnesota State Board of Health, the University Medical School and the Minnesota State Medical Society should unite as state forces in the education of the people on medical matters. A medical journal must be supported financially, and how. No journal with a limited subscription list that is published in a circumscribed community can ever be made a fortune-paying investment. The effort to maintain a journal that is clean and respectable should be supported by the physicians of the state.

The Lay Press

MR. H. V. JONES, Editor Minneapolis Journal: The press represents a great responsibility in this country as does the medical fraternity. I think that if we had with us to-day a representative of the law we could say that these three great professions hold the greatest responsibilities of the people in their hands. Health, public opinion and justice are the foundation of our government and prosperity. I think that the medical men of the state and nation have been governed by their law too long. The people know too little of what they are doing. I do not understand the exact alliance you have with the state university medical department, but I am sure that there is a great work going on that the peoule should know about. I think the medical profession has been standing too long on ethics. It has a right to be heard and should speak out. I am not speaking in a personal sense, but the state association has a right to be heard. We have only to listen to papers we hear on occasions like this to catch the drift. Physicians would be surprised to learn how little people know of what is going on regarding the care of the health of the people. The newspaper men and the railroad man have always gotten along very well together, because the railroad man is generally ready to give results with real enthusiasm; but when we come to the doctor we find it difficult to make much progress, but I think if we could come together a little more we could soon reach an understanding. I am sure newspaper men would be glad to cooperate along the right lines with physician and official bodies. That work to my mind should be educational rather than in the line of news. The press has been too commercial, there has been a letting down of standards, and too much desire to make money at the expense of standard and principle, but I think a reaction has set in. I think the time has come for the medical association of this state to take up in some way a broad educational work, and I am sure it would have the hearty cooperation of the press in this state. I do not know just how a movement of this sort should be organized, but it occurs to me that the people should be told what physicians are doing and what they are going to do. I want to leave this thought with you, that the press of the state would be glad to cooperate in establishing a newspaper educational policy along the lines of what physicians are doing, omitting names, by studying the lines of work along which they are moving.

SYMPOSIUM: OPHTHALMIA NEONATORUM

Unnecessary Blindness

DR. FRANK C. TODD, Minneapolis: Ophthalmia neonatorum is a frequent cause of blindness. Statistics furnished by Dr. F. U. Davis and Dr. Dow show that 10 per cent. of the blind

of all ages in the United States owe their blindness to this disease; from 10 to 11 per cent. of the blind in the school for the blind at Faribault are blind from this disease. While most severe cases result from gonococcus infection that others result from common pus infection. When the disease develops, it can only be properly treated by an ophthalmologist, assisted by trained nurses who should be in constant attendance. Two such nurses should be employed and preferably those skilled in the treatment of this particular disease. Patients whose parents are unable to employ nurses should be sent to a charity hospital. If midwives and physicians would always practice the prophylaxis discovered so long ago by Credé, the disease need not exist. The work of the Committee on Ophthalmia Neonatorum of the American Medical Association, headed by Dr. F. Park Lewis, should be endorsed, and the Minnesota State Medical Association should put itself on record in regard to details, as to the best way of eradicating this disease in Minnesota.

Etiology and Prophylaxis

DR. J. C. LITZENBURG, Minneapolis: The conjunctiva of the new-born infant is peculiarly liable to infection. Many germs may cause infection, but the gonococcus is responsible for at least 65 per cent of the cases and for nearly all the severe infections. Ophthalmia neonatorum may almost surely be prevented, and a 2 per cent. silver nitrate solution is the surest prophylactic, although the 1 per cent. silver nitrate is nearly as valuable. Bichlorid of mercury, 1 to 2,000, is a good substitute and should be used if one has not the silver. If a prophylactic were used in the eyes of every new-born baby the present rate of ophthalmia neonatorum will be greatly reduced. The treatment of the disease should always be entrusted to an ophthalmologist.

The Sterilization of Habitual Criminals and Degenerates

DR. BURNSIDE FOSTER, St. Paul: It will generally be admitted that a very large percentage of the habitual criminals, degenerates and sexual perverts in all communities are the offspring of parents of the same kind as themselves, and that their children will in all probability be tainted in like manner. There is then in every community a large class of individuals who are unfitted to marry and beget children. It may be broadly stated that no man or woman who is afflicted with either a communicable or an inheritable disease should marry or have sexual relations, whether married or not. How far the state can go in this matter is a difficult question to answer. The large class embraced under the comprehensive term, "degenerates," are sure to beget and procreate their kind, and this curse will be passed on to future generations unless radical means are taken to prevent it. While under present conditions the state cannot take charge of these degenerates in a community who have committed no crime, I believe it has the right to take those legally committed to its charge and under proper restriction so deal with them that they may no longer be a menace to society or to future generations. The state of Indiana has enacted a law by which an institution entrusted with the care of individuals of this class may, after consultation with a board of physicians appointed for that purpose, have performed an operation for the prevention of procreation. The operation is that of double vasectomy, and during the first year following the passage of this law 412 persons were operated on in the reformatory at Jeffersonville, Indiana, without a single accident or loss of an hour's time on the part of the prisoner.

The responsibility of the commission is a grave one in the way of distinguishing between hopeless cases and individuals who may recover, still I believe that this generation owes it to the next one to take every precaution to prevent the handing down of types of degeneracy. In Indiana sterilization has been applied, so far, only to the male, although the law permits of its application to women. Ligation and section of the Fallopian tubes would be as effectual in the female as vasectomy in the male, although a little more dangerous. Another much simpler method of sterilization may be available in the near future. I refer to the *x*-rays. By experiments on animals it has been shown that the development of the spermatozoa in the male and of the ovum in the female has been inhibited through the influence of the *x*-rays. It has been observed, however, that this sterilization usually has been temporary and that the animals regained their full power of reproduction later. X-ray operators have found that they themselves could produce no spermatozoa. Just what the *x*-ray does to the testes and ovaries is not known, and this method is uncertain and unscientific. This paper has been prepared for the purpose of suggesting that the Minnesota State Medical Association take definite steps to have this matter presented to the legislature with a view to having a law enacted in the State of Minnesota providing for a scientific method for the prevention of crime in future generations.

Empyema: Diagnosis and Treatment; A New Instrument for Securing Permanent Drainage

DR. W. T. ADAMS, Elgin: It is the duty of physicians to have a better understanding of empyema, and more should be done to avoid the serious sequelæ so common after this disease. The disease is simple, and its treatment should be like that of any other accumulation of pus. It often follows pneumonia, and when elevated temperature continues after the normal limit in pneumonia, empyema is to be looked for. When fluid is diagnosed it should be differentiated with the exploring needle so that operation may be done early. In diagnosis the percussion note is valuable; if the note is flat there is fluid. Auscultation will sometimes be misleading on account of transmitted sounds, while the percussion note will be flat and is more to be relied on. Fever continuing after fluid is formed is certain to indicate infection. If pneumococcic, aspiration may cure, but if recovery is not very prompt, permanent drainage should be made very early. Early operations are preferable, before adhesions have had time to become very strong. Early operation should be made to stop autoinfection from the retained pus. All parts of the chest should be drained and walled off compartments may require separate drainage. Resection is not always essential and I advise against it. The chest should be drained without admitting air so as to force the lung to expand as the fluid is withdrawn. If the fluid is withdrawn without admitting air the lung will expand as the fluid runs out. The open method of operation does not invite expansion, but makes it impossible.

In order to drain the chest without admitting air, I have designed an instrument which meets the indications in the most perfect manner, and renders the early operation easy of accomplishment, and is cleanly and neat in every particular. The instrument is a modification of the cannula and trocar, so constructed that as the trocar is withdrawn from the cannula after its introduction in the chest, the proximal end of the cannula is closed against admitting air by pinching a piece of tubing. The cannula has a "T" branch with opening continuous with the tube of the cannula, which takes the fluid and delivers it into a sealed rubber bag which is deflated when attached, hence no air can enter the chest from that source. Another important feature of the instrument is a pneumatic cushion with which the shaft of the cannula is surrounded from a point on the distal side of a guard plate with which it is provided, to the distal end of the cannula, where it is inserted into a recess of the expanded end of the cannula, which makes it keep its place while the instrument is being pushed through the wall of the chest. When the instrument is properly applied, the pneumatic cushion extends through the wall of the chest with the cannula which it surrounds, and its middle portion is grasped by the chest wall, while the proximal end is without, and the distal end is within the chest. The cushion is double-walled, and the space between the walls, the ends of which are securely sealed, forms an air chamber to which is secured a small piece of rubber tubing, by means of which air is pumped into the interior of the cushion, which distends its outer walls, causing the two ends to balloon, which shapes the cushion like a dumbbell, the contracted center occupying the passage through the chest wall, while the ballooned ends serve to make an additional seal against admitting air, and forms soft, easy cushions to protect the body of the patient against the burden of the cannula.

V 5
190

SYMPOSIUM: TYPHOID FEVER, A MEDICAL AND ECONOMIC PROBLEM, AS ILLUSTRATED BY THE MANKATO EPIDEMIC OF 1908

The History of the Local Administrative Health Work

DR. A. O. BJELLAND, Mankato: The source of the water supply of Mankato is four deep artesian wells on Washington street. Two of these wells are within from 16 to 18 feet of the pumping station. The main outlet of the sewer also runs down Washington street, emptying into the river. A great flood occurred May 20-24. The gate in the main trunk of the sewer was left down on the night of June 24, 1908, presumably to keep the river from backing up into the sewers. This caused a backing up or a stasis of the sewage which backed up into a well pit of the new artesian well near the pumping station, hence sewage was pumped into the water system. Two of the other wells and suction mains were rusty and leaked and had not been properly looked after for a number of years. Then came a sudden sharp epidemic of diarrhea June 26; probably 2,000 people were affected. The people were at once advised to boil the city water so as to be on the safe side. The Minnesota State Board of Health was called on to make an investigation and June 29 Dr. Bracken, Dr. Hill and the health officer made an investigation of well pits and reservoirs and decided from the circumstantial evidence at this time, with the clinical evidence of intestinal disease, that the city water was contaminated and that we were in for an epidemic of diarrhea and predicted a possible typhoid epidemic. The Third street well was shut off, the reservoir cleaned and a flushing of the mains ordered. Samples of the city water from the taps and well pits were taken for analysis at the State Board of Health Laboratories, and on July 12 analysis showed colon bacilli present. July 11 and 12 Widals tests were made and these, together with clinical evidence, showed positively that the disease we had to deal with was typhoid fever. Over 100 Widal tests were made during the epidemic which showed positive reaction.

The first step taken by the health office, June 27, was to order the city water and milk boiled. The second step was to organize an emergency hospital of thirty-five beds. The German Catholic school was utilized for this purpose. A street cleaning and disinfecting department was organized and a general cleanup of the town instituted. The two daily city papers and a German paper were utilized to warn and instruct the people of Mankato how to handle and take care of themselves and how to avoid contracting typhoid fever. A wide-open systematic policy of publicity was inaugurated and was successful in holding down the epidemic in fifty-seven secondary cases. A health office was organized, a stenographer installed, maps of the water mains and sewer system were obtained from the engineer, a filing system was used so that as soon as the report of a case came in the health office, the health officer or assistant went to the house and wrote the history of the case. Visiting nurses were then sent to these places and by an object lesson in nursing, taught the family how to nurse the patient and how to avoid contracting the disease. The nurses made a house-to-house canvas, spreading the gospel of cleanliness and carefulness, and did a great work for us in general.

Having, in July, 1907, secured the passage of a milk ordinance, we were able to keep the typhoid infection from the milk. Through Mr. Manley, of the Minnesota State Food and Dairy Commission, this work was looked after under the direction of the health officer. A milk ordinance in any city making it necessary that all milk producers report promptly any contagious or infectious diseases existing in their families, is a great weapon in the hands of a health officer. Proprietors of all places where food or drink was sold were systematically warned to be careful and taught their responsibility as food and drink purveyors. The physicians in the city were urged to report all cases. Frequent consultations with Dr. Bracken, Professor Bass, consulting engineer, and the State Board of Health and Dr. Hill, the epidemiologist, together with a thorough inspection of the wells, sewers, water plant and the infected districts, gave us a thorough working knowledge of the situation and the needs thereof. The epidemic lasted from June 26 gradually and died out by Nov. 20, 1908. We had 464 cases reported into this office from July 7 to Nov. 20, 1908; 401 primary and 57 secondaries or contact cases, and six outside cases.

The Engineering History of the Mankato Typhoid Epidemic

PROF. F. H. BASS, Minneapolis: The widespread prevalence of typhoid caused suspicion to be directed toward the water supply, although it was known to come from below the surface of the ground at a depth of about 400 feet. An examination of the artesian wells revealed the fact that two of the four in use were defective. These wells terminated at the surface in pits which were approximately five feet in width and seven feet in depth. As the flow exceeded the demand, the wells furnishing water under pressure, were allowed to waste into the pits when not being drawn on. The overflow was in each case conducted from the pits to the sewer through pipes or orifices six inches in diameter. On June 26, an unusually high stage of water in the Minnesota river combined with a cloudburst backed the sewage up into the pump pits, whence it was drawn through the rusted out well pipes into the suction main and distributed thence to the city. One other combination of uncharted water and sewer and drainage pipes at the pumping station furnished a considerable amount to the pumps. The result of the investigation demonstrated the need of prompt remedial measures. A sanitary engineer was employed and has since remained in Mankato, reconstructing the public works of the city. The wells have been redrilled, newly piped and absolutely cut off from any possible connection with the sewerage system.

Diagnosis of Smallpox

DR. J. M. ARMSTRONG, St. Paul: Smallpox during the last few years has been an exceedingly mild disease, only six cases out of 978 being fatal, so that the mortality rate is 0.6 of 1 per cent., less perhaps than any other transmissible disease. Because of the benign type the disease has assumed, the diagnosis must often rest wholly on the objective lesions of the skin, which lesions present characters which make a positive diagnosis possible a few hours after their appearance. The papules appear first on the exposed parts, particularly the forehead and flexor surfaces of the wrists. They are under the epidermis, hard, round, flat-topped, umbilicated, rose-pink and waxy in appearance. All these characteristics are usually present. The entire evolution of the lesion from papule, vesicle, pustule, to scab formation, is regular and characteristic. The lesions vary in number, from a very few they may be so numerous as to become confluent, but the individual characteristics of the lesion are present in all cases. Vaccination is the only protection to the disease and if successfully performed, rarely fails to protect. Only 116 out of 978 patients ever claimed to have been vaccinated and many of these claims could not be substantiated.

KENTUCKY STATE MEDICAL ASSOCIATION

Fifty-fourth Annual Session, held at Louisville, Oct. 19-21, 1909
(Concluded from page 1682)

President's Address: Medical Organization and Work

DR. ISAAC A. SHIRLEY, Winchester: This large and representative gathering of Kentucky physicians is an undeniable endorsement of the organization movement inaugurated by the American Medical Association a few years ago. Before that time, with a membership of scarcely 300, we had an average of one-fifth that number in attendance at our annual gatherings. To-day there are more than 2,150 names enrolled on the society's books and we can count approximately one-third of that number here. Pleasing as this must be to every well wisher of legitimate medicine, there remains much work to be done. Without the fold there are more than 1,500 men and women who, to make our work effective and our joy complete, must be garnered in. To this end I propose to devote my best individual efforts, but realize that to accomplish the desired results will require work, constant work, on the part of every one. I ask your hearty and earnest cooperation.

An alarming defect in our law is the lack of punishment for criminal abortion. Judge Hines stated that in Kentucky there

was no punishment for this crime prior to the period of quickening and after that it was only a high misdemeanor and at no time a felony, unless the mother died, and then only an every-day common murder.

I do not think that the work of the State Board of Health in ridding our state of quacks and other reforms accomplished has been properly appreciated. And while I do not agree with everything it has done, yet it has done so much more good than bad that the former largely outweighs the latter, and I personally thank them for it. I am in favor of a national reciprocity law; if a man is entitled to practice medicine in one state of the Union he should be entitled to practice in every other state, and I hope that such a law will soon be passed and that we shall do what we can to that end. I also want to enter my earnest protest against the almost universal habit of treating clergymen free of charge. I hope that this will not be considered an attack on the ministry, for the members of which I have the greatest respect, and many of whom are among my best friends; but I do not believe in discriminating in charity patients, or if any one objects to the word "charity," say poor patients. If a minister, on account of inadequate salary, too large a family, or any other reason, cannot pay for medical attention, then we should treat him willingly, gladly, gratis; but I have known many physicians who, on account of personal property, were kept guessing as to where the necessities of life were coming from, work for ministers whose salaries were sufficient to insure ease, comfort and luxury for nothing save "thank you," and sometimes not that. And this is what I object to and protest against.

Treatment of the Toxemia of Pregnancy

DR. EDWARD SPEIDEL, Louisville: Under favorable circumstances a multipara should be in charge of her physician from the sixth month, and a primipara from the third month of gestation. Even before that time the primipara may derive some relief in the period of nausea and vomiting, by intelligent directions of the attending physician, while at times he may detect early signs of and even ward off pernicious vomiting. Thereafter, the conduct of the case consists in careful regulation of the diet, especially in the last two months of gestation, proper advice in regard to exercise and clothing, avoidance of constipation, but most of all attention to the action of the kidneys. If the points recently brought out by Skeel in his excellent paper on the "Toxemia of Pregnancy" are confirmed by later investigations, then we will at least have something definite on which to base our therapy and the toxemias of pregnancy need no longer be treated in the haphazard empirical manner that has been the custom in the past. Again, if the two conditions, hyperemesis gravidarum and eclampsia present such pathologic findings, that they must be considered as early and late manifestations of the same process, then our treatment again narrows itself down to the elimination of the toxic agent that is common to them both. With the knowledge that the pregnant woman ordinarily has a blood-pressure not exceeding 150 mm., and that in toxemia it goes to 160 and 180 mm., and that under such circumstances there is a retinitis that is absolutely diagnostic of severe toxemia, then with such evidence we are justified in a resort to radical measures. An increase in blood-pressure above the normal 150 mm. with the retinal symptoms present in the early toxemia, will give us a basis for treatment and serve as a warning signal in the occasional patient who does not have albumin in the urine. Prompt elimination by all the emunctories and absolute restriction to a milk diet until marked improvement shows itself, should be the keynote of treatment. From 5 to 10 grains of calomel, followed by tablespoon-doses of Epsom salts, and then daily administration of small doses of Epsom salts is one of the simplest and best methods of combating autotoxemia and should begin the treatment. This with a milk diet alone, will often control the condition and the patient may go on safely to an uncomplicated delivery. When these measures alone are not effective, then the patient should be kept under careful observation and an account kept of the blood-pressure as indication for extreme measures. In the meantime, hot normal saline solution should be introduced into the colon, in quantities of a quart at a time, two or three times a day. Hot wet packs with the introduction of carefully wrapped and lighted electric bulbs in the pack to keep up the heat and produce a profuse sweating should also aid in elimination. Thyroid extract in doses of 5 grains every four hours, is advocated by those who consider the toxemia due to a functional insufficiency of the thyroid. Thyroid gland or extract administered in this way acts promptly in reducing blood-pressure, but its beneficial effects are counteracted by the fact that the drug causes a marked increase in tissue waste and therefore a considerable increase in the urea and other waste products in the blood and urine. It should be possible in most cases, if the above measures are carried out carefully and successfully, to carry the patient through a safe delivery, at any time, however, if there is a dangerous rise in blood-pressure, and if ocular symptoms present themselves, then the physician must understand that his patient is in extreme danger and that she may be liable to an eclamptic seizure at any time. There is then only the choice between venesection, the use of veratrum viride, and a premature delivery. With these pertinent objections to both venesection and veratrum viride it becomes evident that when the toxemia does not respond to the simple measures first advocated, that a premature delivery offers the best chance for the patient, according to modern ideas on this subject. In the multipara, this may mean a resort to bougies and slow manual dilatation; in the primipara with rigid undilatable cervix it will be best to resort to a preliminary manual stretching of the perineum and vagina, then vaginal Cesarean section and delivery.

Surgical Treatment of Cancer

DR. A. J. OCHSNER, Chicago, Ill.: 1. The earliest possible diagnosis of cancer must be made. 2. In case it is not possible to exclude cancer in the diagnosis, more competent counsel must be called. 3. The growth must be removed extensively even in the earliest cases. 4. In case the physician is not competent to make extensive removal of the growth, he should refer the case to one who will do this at once. 5. A search for new tests which will determine the presence of cancer early should be continued by scientific observers and supported by clinicians. 6. The search for the cause of cancer should be vigorously pushed. 7. At present, negative results in diagnosis by laboratory tests must not be considered of sufficient importance to prevent operative treatment when physical examination indicates the presence of cancer.

DISCUSSION

DR. WILLIAM J. MAYO, Rochester, Minn.: Dr. Ochsner, with his large clinical experience and keen observation, has placed his hand on the difficulty which has arisen in the past. That is, we as surgeons have asked medical men for a diagnosis of cancer which they could not make and then we have blamed them because the cases have been referred to us for operation at a period of time when it was impossible to do perhaps more than a palliative operation. We must have team work. It is impossible for the surgeon working alone, for the clinician working alone, or the experimental man working alone to say that his is the only way. It is by a combination of these that we can bring forward some method by which cancer in various parts of the body may be dealt with at an earlier time. The surgeon must have these patients early for operation if good results are to be obtained. And in order to do this he must have the cooperation of the internist, and it should be the duty of every practitioner of medicine to teach the people just as they do in Germany. In Germany to-day the reason better results are being attained than in this country is not because better work is being done, nor because the operations are more extensive in cases of cancer, but because there is a widespread effort on the part of the profession to teach the laity. This subject has been up before the American Medical Association and at present there is a committee on publication of information with reference to cancer. People must be taught some of the more common signs and symptoms of cancer. If we expect to accomplish more in the future than we have in the past the laboratory man, the clinician and the surgeon must work together in harmony.

DR. WILLIAM D. HAGGARD, Nashville, Tenn: Next to the great white plague, the subject of malignant disease in general is one that should receive our greatest interest because it is not generally appreciated that one out of eleven persons

who have passed the age of 30 is going to die of some form of cancer. Out of 572 patients with cancer on whom Dr. Ochsner has operated in the last five years, approximately 100 of the lesions were of the breast, 100 of the uterus and 100 of the stomach. Therefore, it should be our earnest endeavor to concentrate our attention upon this subject. It would be well for us to remember the address of Dr. Maurice H. Richardson, as chairman of the Section on Surgery and Anatomy of the American Medical Association in 1905, in which he said that "every neoplasm, wherever situated, should be removed, if possible, at the earliest moment it is recognized." If we would simply take that lesson home with us we would make a great step in advance. It is said that 90 per cent. of all "lumps" in the breast in women over 30 will become malignant. If that is true it behooves all of us, when a woman complains of tumor of the breast, not to say that it is a glandular tumor or an adenofibroma, but to take it out. It is a small matter and microscopic examination will subsequently show whether or not it was malignant. And, if so, while the stitches are in place, a little incision can be made and the entire breast amputated in a classical way, and I venture to say that we will get 50 per cent. of cures in that type of case.

DR. J. GARLAND SHERRILL, Louisville: It is the duty of every physician to make it plain to his patients that cancer is not an incurable disease provided the remedy be applied early. There is one thing that the profession does not seem to be well aware of and that is cancer no longer appears after 40 to 60 years of age, but that it appears now as early as 12, 15 and 18 years. I have had recently under my care a girl 18 with cancer of the intestine extending from near the anus up to the left flexure of the colon. If we would impress on the profession that carcinoma exists in patients under 35 years of age we will have made a great step in advance at this meeting.

DR. WILLIAM H. WATHEN, Louisville: There is no one who appreciates the bad results that we have had in the surgical treatment of cancer more than he who has confined his work largely to uterine surgery and to intestinal surgery—structures that cannot be seen without a most thorough examination or without an exploration. Unfortunately most of the cases of uterine cancer that have been referred to me have been done so too late for more than a palliative operation. It is true that a few patients in whom the cancer had not involved the structures extensively, have remained permanently well. Whenever the cancer extends higher up and invades the parametrium, then it is a difficult matter to save these patients or to give them permanent relief; and permanent relief was not given until we were taught to operate by the suprapubic method and to enucleate the cancerous tissues far down on each side, removing the diseased parametria and, if necessary, dissecting the ureter. Some of these patients when so operated on have remained permanently well. I have one patient in whom there was an extensive involvement of the structures, who has remained well for three or four years, while I have had others in which the relief was of shorter duration. Permanent results would be much better if we saw these patients with cancer of the uterus earlier.

DR. A. J. OCHSNER, Chicago: In regard to the education of the public with reference to cancer, there is one thing which is very difficult to overcome, namely, almost every person in every town in this country knows of her friends who have had cancer and who have undergone operations and perhaps have died from the return of the disease. But very few of these people know of any patients who have recovered permanently, because those who recover permanently from this disease do not want their friends to know they had cancer and had undergone operation for its removal. I meet this condition constantly.

Prophylaxis in Medicine

DR. C. G. STEPHENSON, Becknersville: Our duty is to prevent or to remove all injurious external conditions which experience has shown will contribute to the development of disease and to strengthen or improve the faulty constitution and thus remove predisposition to disease. General prophylaxis consists in the employment of measures against conditions which are injurious to and will produce disease in individuals belonging to the same group. Prophylaxis should be provided for by the nation, state, county and city, and this being the case our national and state boards need to be quickened to a fuller realization of the service they owe to the individuals of this nation. They should endeavor to make the people of the United States a strong people, a happy people and a more useful people; a people whose bodies shall possess such physical resistance to disease as to make them immune to the many diseases that bear on people under ordinary conditions of life. A campaign of health education is being constantly waged, but it should receive a new impetus. This new impetus would be given by the establishment of a health bureau at Washington as a foundation source from which to draw that which would contribute to making people happier, stronger and more useful. Individual prophylaxis belongs directly to the realm of the family physician. One encouraging feature in modern civilization is the general interest which is being aroused in the matter of prevention of disease and death. Organizations composed of both lay and professional men are on the increase, educating people to a realization of the duty they owe to themselves and their neighbors. The demand for, and securing of, pure food and drug laws are some of the fruits of the organized effort that is being made. All advances have been the result of agitation and education among the laity by physicians.

Treatment of Chronic Amebic Dysentery

DR. GRANVILLE S. HANES, Louisville: My remarks relate chiefly to my own experience in the management of chronic amebic dysentery in our own climate. First, the patient is put to bed in a properly appointed room for the sick. He is not required to remain constantly in bed, but rest in the recumbent posture is the attitude that he should occupy chiefly. Second, it is almost a universal practice to make the administration of a purgative the first step in the treatment of these patients. I seldom resort to such a measure. It is my opinion that the nausea, exhaustion and general disturbance to the digestion that such a procedure precipitates is not justified by the results obtained. Third, many patients affected with chronic amebic dysentery are very much emaciated. I have found that this condition is almost always due to an insufficient amount of food. It has long been customary to restrict the patient's diet to a poorly nutritious food in any form of diarrhea. Fourth, it is absolutely inhuman to withhold opium when patients can be so promptly and completely relieved by its use. The relief from the terrible pain, straining and general exhaustion is beneficial to the patient and more than counteracts the ill effect the drug produces. It is much better to give opium when necessary and overcome its constipating effects by small doses of salts or other purgatives. Fifth, internal medication is considered by many to be the most important feature in the treatment of amebic dysentery. The solutions employed in irrigating the large gut for amebic infection are too numerous to mention. Quinin, copper sulphate, silver nitrate, tannic acid and permanganate of potassium are those most frequently employed. They all have the objection of acting as irritants to the mucous membrane when used in sufficient strength to kill and arrest the development of the ameba. For more than a year, I have been using ordinary commercial coal oil for this purpose. Its use was suggested to me on account of its deadly influence on parasites found on domestic animals. The crude petroleum also being used to prevent the development of mosquitoes. After experimenting with it for some time I was surprised to find that it was not irritating to the mucous membrane nor was it absorbed when retained in the gut for twenty-four hours, or even longer. Instead of its effect being that of an irritant it is bland and acts as a sedative to the mucous surface. It will not only remain in the bowel for a long period, but the gut will tolerate larger quantities than it will of water or aqueous solutions of any kind.

I have treated 36 cases of amebic dysentery in the past eighteen months. At one time I entertained the belief that a real amebic infection could never be looked on as being absolutely free from recurring attacks. I have abandoned this belief, and it is now my opinion that many patients are

cured in whom the diagnosis was never known. If the infection is superficial and situated low in the gut and is of a very mild type it will yield to treatment with but little difficulty. If, on the contrary, the infection is severe and the disease is extensive in the upper limits of the large gut, the cure is exceedingly difficult, and, so far as we know, it may never be made permanent. In the entire number of patients treated, there was not one who did not show the infection in the rectum and sigmoid. While it is said that the cecum, hepatic and splenic flexures are the most frequent sites of disease, I cannot believe that this is true. If there is infection higher up in the gut it seems reasonable that the sigmoid and rectum would also become infected when they are the receptacles that constantly retain the drainage from all diseased surfaces above.

Clinical Diagnosis of Amebic Dysentery

DR. CARL D. RENDER, Louisville: This is essentially the detention of motile amebas that have been obtained from the intestinal tract. It is usually taught that the stools should be examined for these protozoa. It has been shown repeatedly that this method requires a great deal more time and is much less reliable than that of obtaining the specimen directly from the surface of the ulcer. I never rely on the examination of the stools except in cases in which there is no lesion that may be detected in the rectum or sigmoid. In almost every case of chronic amebic dysentery ulcers are present in the rectum and sigmoid. After one has seen and treated a number of these cases it is with but little difficulty that a diagnosis can be made reasonably certain from the patient's general appearance and the history obtained from him. Motile amebas are sought only to confirm the probable diagnosis. The technic employed in exposing the ulcer and obtaining the specimen requires special attention. Unless the specimen is kept at the proper temperature and spread on the slide in the correct way, failure to detect the amebas will likely result.

Dangers of Animal Tuberculosis to the Public Health

DR. F. T. EISENMAN, Louisville: The unsuspected tuberculous cow is a very serious menace to the public health, and her true condition is seldom known until the tuberculin test is applied. It is then we often find that cows considered to be in the best of health and living under the most sanitary conditions react to the extent of from 5 to 60 per cent. Recently a herd consisting of 90 cows, when tested with tuberculin was found to contain 54 diseased cows and 8 suspicious ones. On Dec. 15, 1908, the Jefferson County Fiscal Court, anxious to determine accurately to what extent milk coming into Louisville was infected with tuberculosis, appropriated $1,200 for the purpose of carrying on the test by guinea-pig inoculation. The partial report of this investigation disclosed the fact that of 119 samples of milk taken from fifty-three dairies of various counties, 39.1 per cent. were proved to be tuberculous. The announcement of this result caused considerable alarm, but as the test was conducted by Dr. Cyrus W. Field, pathologist and bacteriologist of the University of Louisville, an eminent authority on the subject, the accuracy of the test was never doubted. When the attention of the State Board of Health was called to the dangerous character of Louisville's milk supply, a proclamation was issued making it compulsory for all cows in the state to show negative reaction to tuberculin before the milk could be sold. A little over three years ago, the Jefferson County Medical Society, realizing the need of milk on the purity of which the members could depend, appointed a milk commission and it is now possible to obtain a certified milk which meets all the requirements of the society. A low bacterial content is required and freedom from pathogenic organisms. This makes it necessary that every cow shall be tested before entering a certified herd and once a year thereafter. Dairymen producing certified milk have killed over forty cows that they have purchased for additions to their herds and which have reacted to the test. These dairymen are experienced and felt that they could without fail select cows free from disease. Recently, samples of the certified milk were injected in a large number of guinea-pigs and not one showed tuberculous infection.

In Louisville, of the large number of general hospitals and infirmaries, one only uses milk from tested herds and undoubtedly many patients are infected from tuberculous milk. Millions of dollars are being spent for the cure of tuberculosis and yet the positively known greatest source of human tuberculosis, the tuberculous dairy cow, is being continually ignored and people are constantly being infected, that many more millions of dollars may be spent in their attempted cure. The time is coming when the public will demand of the profession and the health authorities the suppression of tuberculous milk. It is to be hoped that this time will soon come and that prior to it, all the members of the profession, including the health authorities, will be awakened to their responsibilities in the matter.

Diagnosis of Incipient Tuberculosis

DR. O. W. RASH, Owensboro: The diagnosis of incipient tuberculosis is not difficult to the physician who realizes the prevalence of the disease, who observes the temperature of his patients, who makes a thorough examination of the chest in all suspicious cases, and who uses the tuberculin test with care.

What More Can Our Profession Do To Decrease the Spread of Tuberculosis?

DR. JACOB GLAHN, Owensboro: There are recorded between 6,000 and 7,000 deaths in the State of Kentucky alone during one year, and if we multiply this by five, we have over 30,000 persons ill with tuberculosis at this time, and there is no telling how many more obscure cases exist. This great loss of life, due to tuberculosis, is monstrous and abhorrent, and should not be, for more people die of tuberculosis than the fiercest war has yet destroyed in the same length of time; but in the prosecution of a war, special sums of money are levied to meet the expenses, and for the white plague, which destroys our fellow beings in such an insidious manner, nothing is done by our legislative bodies. Therefore, if the brotherhood of man cannot assert itself spontaneously, and come to the succor of the ill brothers, then the state governments should and must arouse themselves and allow a sufficiency of money under the control of the state boards of health and the various antituberculosis leagues, and municipalities, to establish and carry on simple and ample tuberculosis sanatoria in every county in the state. Every life saved will become a fixed asset, and a useful citizen will be preserved to the state.

Diagnosis and Treatment of General Peritonitis

DR. JOHN R. WATHEN, Louisville: The diagnosis and the differential diagnosis of peritonitis as in many other surgical diseases of the abdomen, are often best made by an early exploratory incision; and much valuable time has been lost waiting for a well-developed case of diffuse suppurative peritonitis before a conclusion was reached, when timely operation would have cured the case, but which later has become almost hopeless. The basic principle in the modern treatment is the prevention or the retardation of absorption of septic material. This is accomplished first, and most important, by the Fowler position before and after the operation and even until convalescence is well advanced, and, secondly, by opening the abdomen to relieve the tension, which so greatly favors this absorption. Ochsner has called attention to the avoidance of food or drink by the stomach, and the application of cold to the abdomen, thus preventing peristalsis and in this way lessening the diffusion of the infective material over the peritoneal surface. All are agreed that rapid operation with a closure of the point or points of leakage is the thing most desired. This closure should be accomplished by the simplest, most rapid and safest method and provided with abundant drainage, for fear of an imperfect stoppage of the leak. This drainage should consist preferably of fenestrated soft rubber tubes and loose gauze packings. It seems now to be the consensus of opinion of the most successful operators that the less we manipulate, wash out or handle the intestines, the better are the patient's chances for recovery. The post-operative treatment consists of introducing continuously saline solution by rectum—proctoclysis or enteroclysis. Murphy

V 5
190

asserts that it is seldom correctly given, and describes this method practically as follows: The fluid should be administered through a fountain syringe to which is attached a hard rubber or glass vaginal douche tip with multiple openings. The tube should be flexed almost to right angles three inches from its tip. A straight tube should not be used, as the tip produces pressure on the posterior wall of the rectum when the patient is in the Fowler position. The tube is inserted in the rectum to the flexion angle and secured in place by adhesive strips, binding it to the side of the thigh so that it cannot come out; the rubber tubing is placed under the bedding to the head or foot of the bed, to which the fountain is attached. It should be suspended from 6 to 14 inches above the level of the buttocks and raised or lowered to just overbalance hydrostatically the intra-abdominal pressure; *i. e.*, it must be just high enough to require from forty to sixty minutes for one and one-half pints to flow in, the usual quantity given every two hours. The flow must be controlled by gravity alone, and never by a forceps or constriction on the tube, so that when the patient endeavors to void flatus or strain, the fluid can rapidly flow back into the can, otherwise it will be discharged in the bed. It is this ease of flow to and from the bowel that insures against over-distention and expulsion on the linen. The fountain had better be a glass or graded can, so that the flow can be estimated. The temperature of the water in the syringe can be maintained at 100 degrees by encasement in hot water bags. The syringe is refilled every two hours. The tube should not be removed from the rectum for two or three days. When the nurse complains that the solution is not being retained, it is certain that it is not being properly given; even children tolerate proctoclysis surprisingly well.

Treatment of Compound Fractures

DR. J. G. CARPENTER, Stanford: Shock must first be treated and the physicomental state of the patient considered. Then the flesh wound, bone wound and the field of the wound should be thoroughly cleansed and hemorrhage arrested. The wound being aspeticized, I reduce the fracture, with or without drainage, as the case may demand. There should be complete coaptation of the fractured ends with immobilization of the fracture; if necessary, with bone rings, bone pegs, silver wire or chromicized catgut ligatures. In compound comminuted fractures, the fragments should be fastened together or to the shaft. We should remove the detached fragments of bone, cleanse and place them in a 1/1000 or 1/2000 bichlorid of mercury solution, then in a warm saline solution at the temperature of the blood, and transplant them into the wound. We should resort to drainage, if necessary, and apply an antiseptic dressing. The fractured bone should be immobilized at the proximal and distal points, with proper springs and extension and counter-extension, with complete rest of the limb.

Management of Burns

DR. C. C. GARR, Lexington: There are two general classifications of burns: First, in regard to depth—first, second and third degree. Second, in regard to cause—(1) flame; (2) hot or molten metal; (3) steam; (4) electricity; (5) chemical; (6) *x*-ray. Constitutional treatment is, at first, most important. It is very essential to relieve pain and combat shock. In doing this morphin, atropin, adrenalin chlorid and proctoclysis are serviceable. For the local treatment, I prefer the old-time carron oil as it relieves the pain and hastens, but does not increase, sloughing. Pieric acid and other applications may be used. After the granulations are healthy the only rational thing is skin-grafting. I use a modified Thiersch graft, employing an air dressing.

The Social Evil

One evening was devoted to a discussion of the social evil. Dr. C. H. Vaught, Richmond, discussed the cost of venereal peril from the standpoint of the general practitioner; Hon. R. W. Bingham, Louisville, discussed it from the viewpoint of the lawyer; Rev. E. L. Powell, Louisville, from the standpoint of the minister, and Mr. J. H. Hager, Louisville, from the standpoint of a superintendent of police. A general discussion followed.

Book Notices

ETUDES ANATOMO-CLINIQUES: COEUR—VAISSEAUX—POUMONS. Par le Dr. Raymond Tripier, Professeur à la Faculté de Médecine de Lyon. Paper. Pp. 604, with illustrations. Price, 10 francs. Paris: G. Steinheil, 1909.

The author endeavors to explain the phenomena and causation of the diseases which he considers, by the anatomic conditions which develop and characterize them. The subjects which he discusses are endocarditis, syphilitic aortitis, atheroma of the mitral valves, arteriosclerosis, the rôle of the circulation of the blood in determining lesions, emphysema or hypertrophy of the lungs, pleural adhesions, reciprocal relations of affections of the heart and lungs, initial lesions of pulmonary tuberculosis. These chapters are illustrated by thirty-two figures which are well drawn and are an addition to the text.

In the chapter on arteriosclerosis Tripier discusses the views of other authors, most extensively and most critically those of Huchard, with whom he does not agree. He considers the distinctions which many make between arteriosclerosis and atheroma, but has nothing to add to what is generally known of the causation of the arterial lesions. The frequent association of arteriosclerosis and sclerosis of the kidneys and the common notion of a relationship of cause and effect lead to a general discussion of scleroses, which, Tripier says, "are composed of new tissue of an inflammatory origin." Moreover, he writes further on, "one never sees an arteritis of small arteries more or less extensive preceding the production of the inflammatory lesions, as would be expected if there was an initial causative endoarteritis." Sclerosis is more or less variable in different organs, owing to their varying structure as well as to the age of the subject affected, his habits and his antecedents. It does not suffice to invoke an arterial lesion more or less generalized to explain these diverse changes in organs.

Of the heart lesions in Bright's disease Tripier considers at some length those with and those without sclerosis. This chapter is somewhat polemical, and while in it the nature of arteriosclerosis and of the associated lesions in various organs is discussed, the clinical aspect and the anatomic details of the lesions are not. The author endeavors to establish his own views on observed facts and to avoid the hunt for facts to maintain a hypothesis as so many authors do.

An analysis of each chapter cannot be made here, but what has been said of this one will illustrate the author's method of thinking, though the others deal more with diseases and less with theories than does this one.

CARE OF MOTHER AND CHILD. By Clarence M. Cheadle, M.D., Member American Medical Association. With an introduction by Charles Edwin Ruth, M.D., formerly Professor of Surgery and Anatomy, Keokuk Medical College, now of Ponce, Porto Rico. Cloth. Pp., 354. Price, $2. Published by the Author, Ashton, Ill., 1909.

Dr. Cheadle has felt the need, as have many other physicians, of a simple, concise, not too technical little treatise that could be placed in the hands of an expectant mother to give her an intelligent idea of the pregnant state, how to conduct herself during this time, how to prepare herself for the important coming event, and how to meet the great obligations that have been placed on her after the baby is born. To meet this need he has prepared the book before us. Dr. Cheadle addresses himself throughout to the mother and rarely forgets himself, as is so commonly done, to introduce prescriptions, formulas and other technicalities. Part I is devoted to the mother, the changes that occur during pregnancy, its signs, symptoms and complications, the preparation for confinement, the event itself and the after-care and convalescence. Part II deals with the baby, its care and hygiene, growth and development, natural and artificial feeding, and its common nutritional disorders. Part III deals with the common diseases of children, giving the mother an idea of their cause and nature, and of the general principles of treatment. The part dealing with infant-feeding is especially noteworthy for the author's familiarity with newer ideas and their exposition. We hope, however, that in a subsequent edition even the few tables for infant-feeding that he gives will be omitted and that the expression "colorimetric method" will be avoided, for even healthy babies cannot be fed by a table or by a "method."

The work has evidently been a labor of love and has a commendable ring of earnestness and of purpose. There is a need of missionary work on the subject of puerperal mortality and morbidity, of criminal abortion and infant mortality. Dr. Cheadle feels his responsibility and meets it in the true spirit. To quote from the preface: "The number of women who die from puerperal causes is so great that it appalls the one who stops to consider. And still the tide of death flows on and few are the hands put forth to stay it. Here is one feeble hand put forth. It is hoped that it may gather in a few from the black tide and restore them again to the places among their children and husbands." The physician will find nothing new in the book, but to the mothers and expectant mothers for whom it was written it can be warmly commended.

THE DEVELOPMENT OF THE CHICK. By Frank R. Lillie, Professor in the University of Chicago. Cloth. Pp. 472, with illustrations. Price $4. New York: Henry Holt & Co., 1908.

An essential requisite to the understanding of anatomy, either human or comparative, is a thorough appreciation of the facts and processes of embryology. This subject has been taught by laboratory methods in our colleges of liberal arts and sciences for only three decades, and in our medical schools, with a very few exceptions, the laboratory teaching of embryology has been introduced within the last decade. Owing both to the availability of material and also to the fact that the text-book of Foster and Balfour was, for two decades, the only book available in embryology, the greater part of the laboratory teaching of embryology, until very recent years, has been on the chick, and therefore this form has come to be a classic. Now, however, especially in the medical schools, mammalian material is more and more used to illustrate the facts of embryology. For certain phases of development, however, the chick is still a favorite form, and therefore it is of interest to the medical profession to note the appearance of this excellent work, giving a logical and exhaustive treatment of the devlopment of a single animal. In the earlier part of the book the author discusses some of the more general problems of embryology and then takes up the various fundamental processes of the early development of the chick. This is followed by a discussion of the differentiation of the several organic systems. The discussion does not aim to be comparative; Professor Lillie confines himself almost entirely to the phenomena that occur in this one animal and goes into accurate detailed description of this limited subject.

The book is rather too extensive to serve as a text-book for beginners, and especially for beginning medical students who wish to devote some time, at least, to mammalian embryology. The book, however, will be found of the greatest value for reference, and every teacher of embryology must constantly consult it. It will furnish excellent and interesting reading for the student after he has made some headway in embryology. It will serve to stimulate the interest of the practitioner and to give a view of recent advances in this limited field. The accuracy and conservation of the statements in the book may be relied on. The book has excellent and well-selected illustrations, many of which are new. The work of the publishers has been very well done so far as the printing and binding are concerned, but the impressions of some of the figures are not entirely successful. The appearance of this book is of distinct value to the advance of medicine, since it will serve to stimulate the production of a better text-book in mammalian embryology than we now have. From the point of view from which it was written—that is, as a carefully balanced and well digested exposition of our present knowledge of the embryology of this one animal—the book is successful.

MINER'S NEW COMPLETE OBSTETRIC RECORD. Improved Edition, Giving all Medical Data Bearing on the Problem of Heredity. Cloth. Pp. 124. Copyright, 1883, by Joel A. Miner. Ann Arbor, Mich.: Joel A. Miner.

This book is something in the nature of a ledger, and contains space for the personal history of the father and mother, the history of the labor, description of the child and general remarks regarding the puerperium. It should be of value not only to obstetricians, but to physicians in general practice, as it is an adequate means of keeping complete obstetric records.

ARBEITEN AUS DEM PHARMAZEUTISCHEN INSTITUT DER UNIVERSITÄT BERLIN. Herausgegeben von Dr. H. Thoms, Professor und Direktor des pharmazeutischen Institutes der Universität, Berlin. Vol. VI. Comprising the work for 1908. Cloth. Pp. 304, with 4 illustrations. Berlin: Urban and Schwarzenberg, 1909.

Dr. Thoms is a corresponding member of the Council on Pharmacy and Chemistry of the American Medical Association and his work in the investigation of synthetic remedies, secret preparations, and other chemical matters of interest to the medical profession is too well and favorably known to need comment. The volume contains reports of investigations of medicines, foods, technical products, colonial products, etc., as well as reports of much original work in pure and applied chemistry. In the section devoted to medicines we have the work of Zernik on the most important new remedies of the year 1908 and investigations of secret remedies by various workers. The work on the new remedies is of vast importance. It puts before the profession an account of the composition and properties of the new synthetics from a disinterested source. References to the literature are appended. An idea of the prolific character of chemical industry is afforded by the list of new remedies for the year which includes 61 titles, of which 14 have been specially investigated in the department. The need of continual watchfulness over accepted remedies is shown by the results obtained by Zernik in studying theobromin preparations; he found that a sample of the theobromin sodium acetate contained less than 40 per cent. of the theoretic amount of theobromin and a sample of theobromin sodium salicylate only 70 per cent. of the theoretic quantity of theobromin.

THE GREAT WHITE PLAGUE: Tuberculosis. By Edward O. Otis, M.D., Professor of Pulmonary Diseases and Climatology, Tufts College Medical School. Cloth. Pp. 321. Price, $1.00 net. New York: Thomas Y. Crowell & Co.

This book is written for the layman and contains the facts concerning tuberculosis, its causation, symptomatology, curability and treatment, its prevention and the world-wide crusade against it. The language is simple and an attempt is made to bring the chief facts regarding the disease within the comprehension of the ordinary layman, while making no attempt to encroach on the proper field of the physician. The book ought to have good influence in helping in the campaign against tuberculosis.

THIRD REPORT OF THE WELLCOME RESEARCH LABORATORIES AT THE GORDON MEMORIAL COLLEGE, KHARTOUM. Andrew Balfour, M.D., B.Sc., F.R.C.P., D.P.H., Director, Fellow of the Royal Institute of Public Health. Cloth. Pp. 477, with illustrations. Published for Dept. of Education, Sudan Government, Khartoum, by Baillière, Tindall & Cox, 8 Henrietta St., Covent Garden, London, 1908.

This handsome volume is nearly twice the size of its predecessor, which was issued in 1906. The report includes the work of the staff of the laboratories and also a number of papers prepared by other authors who have done work in the laboratories. Prominent among these papers is one by El Bimbashi Hassan Effendi Zeki describing "The Healing Art as Practiced by the Dervishes." This gives an account of the native medicine before the country came under British control and shows a marked contrast with the modern scientific methods now in vogue. The method of amputation was to draw the limb through a hole in the wall and sever it at one stroke with a sharp sword. The stump was then plunged in boiling oil which checked hemorrhage and the limb was bandaged with calico. This article is supplemented by notes contributed by other authors. An account of trypanosomiasis in the Anglo-Egyptian Sudan is given by the director, Dr. Balfour. There are some interesting and valuable contributions in the field of entomology. A description of the poisonous snakes of the Anglo-Egyptian Sudan is given by Dr. Franz Werner. Helminths are discussed by Robert T. Leiper, M. B. A large section is occupied with the anthropologic results of an expedition made by Mr. A. M. Pirrie, who unfortunately died before he was able to finish his work. The report of the chemical laboratory, in addition to other valuable work, takes up the results of a study of the various gums of the Sudan and their origin, which is now believed to be microbic. The work is handsomely illustrated and will be of special value to those interested in tropical medicine.

CHILDREN IN HEALTH AND DISEASE. By David Forsyth, M.D., D.Sc., Physician to the Evelina Hospital for Sick Children. Cloth. Pp. 362. Price, $3. Philadelphia: P. Blakiston's Son, & Co., 1909.

It has been a pleasure on several occasions in the past few months to comment with especially favorable emphasis on books on children by English authors, notably those of Thompson and of Still. To this the present volume is no exception. The object of the book is to present a concise but comprehensive picture of child life in health and disease, which Dr. Forsyth says, can be seen in its proper perspective only "when we take up our position at the meeting-point of the many sciences that are concerned in the development and welfare of the young." He deals thus in turn with the physiology, psychology, school hygiene and training of the young, with idiocy and feeble-mindedness, infant mortality, children and disease, the examination, diagnosis and some points in the treatment of sick children. The idea is undoubtedly a good one and has been consistently and masterfully carried out—but the space between covers is too small, and under such circumstances the "Psychology of Children," and "Examination of the Vomit and Feces," come so close together that the effect is rather jarring. With so luminous and scholarly an author, one can not help but feel that a more satisfactory book would have been produced if the purely medical chapters on disease had been omitted, and the rest correspondingly expanded. The unity of the book that the author aims at is rather destroyed by bringing in strictly medical technicalities, thus giving the whole a sort of encyclopedia-of-child-life effect.

The book will appeal especially to medical men who are interested in all that pertains to children, and not merely in their ailments, and to the ever-increasing number of intelligent mothers who are looking for help in bringing up their boys and girls to the highest possible standard. Both can well omit the last few chapters, and both will be well repaid for assimilating the rest. The book itself has an appropriately dignified appearance and one is especially favorably impressed by the large, clear type and the restful effect of the thick, cream-colored paper.

AGRICULTURAL BACTERIOLOGY. By H. W. Conn, Ph.D., Professor of Biology at Wesleyan University. Second Edition. Pp. 331, with 64 illustrations. Cloth. Price, $2.00, net. Philadelphia: P. Blakiston's Son & Co., 1909.

The second edition of this well-known work has been revised and somewhat enlarged, but the general treatment has not been materially altered. Many interesting topics are discussed and the book contains information likely to be of a good deal of value to the scientific farmer. The style of writing is on the whole clear, but embellished by too many expressions such as "the disease side of the bacteria story," page 3, and "a little thought will show us," page 55. Not a few errors of fact have crept into the text, as, for example, the statement on page 130 that the presence of *B. coli* in a sample of water "indicates a certainty of danger." Again on page 282 we are told that the spores of the anthrax bacillus will "resist a temperature of about 280 degrees F. for two or three hours." The book, however, is likely to hold the place it has already made for itself in spite of these and other blemishes.

HEMORRHAGE AND TRANSFUSION. By George W. Crile, A. M., M.D., Professor of Clinical Surgery, Western Reserve Medical College. Cloth. Pp. 560, with illustrations. Price, $5.00. New York: D. Appleton & Co., 1909.

These papers by Crile and his associates present the data and results of the work of eleven years in research and clinical observation. Much of the material has been previously published, but the convenience of the reader or investigator has been well served by the collection in compact form, with the most complete details, of this large mass of experimental and clinical experience. The literature of the subject is thoroughly considered. Dr. Crile has analyzed the evidence of his own experience and that of others in the most thorough and logical fashion, covering every point, so that, so far as information on these subjects is obtainable, his conclusions represent the most scientific views of to-day. The technic of transfusion is clearly presented and by the improved method of the author reduced to the simplest and most practical form. The book, though large, will amply repay careful study.

Miscellany

Twelfth International Congress on Alcoholism

Dr. Reid Hunt (*Pub. Health Rep.*, Oct. 8, 1909, xxiv. No. 41) reports his observations as delegate to the Twelfth International Congress on Alcoholism held in London, July 18 to 24. Among the great variety of subjects discussed at the scientific sessions were the effect of alcohol on immunity, heredity, muscular and mental energy, its relation to tuberculosis, insanity, nervous diseases and therapeutics. The consensus of opinion of the speakers seemed to be that alcohol, in any form, is seldom of distinct value in the treatment of disease; and some evidence was brought forward to show that alcohol even in moderate amounts has an unfavorable effect on offspring and has a tendency to lower resistance to infection.

The statements frequently made that alcohol is, *per se*, a predisposing factor to tuberculosis received some but not marked support from an elaborate statistical study by Henschen of Sweden.

In discussing a paper by Mr. Wilbert on the alcoholic beverages in the different pharmacopeias Hunt called attention to the fact that only the United States and Greek pharmacopeias include whisky, and suggested that its recognition by these pharmacopeias gave it an undue prominence as a medicinal agent; also that wine is very undesirable as a pharmaceutical agent and that the preparations made with it should be discarded from the Pharmacopeia.

One of the most important of the general meetings was devoted to the subject of alcohol and the efficiency of the national services, at which representatives of the naval, military, postal, railway and legal professions spoke. The extraordinary growth of total abstinence in the British army and navy was especially emphasized; 40 per cent. of the army in India are total abstainers. This growth of total abstinence in the army was attributed to a very considerable degree to the improvements that have been made in the surroundings of the soldier, such as improved housing and food. One speaker pointed out the need of giving much more attention to the physical welfare of the sailors of the merchant marine. The unhygienic conditions under which many of them live were held to be the chief cause of their intemperance and the deterioration caused by these factors (intemperance and lack of hygiene) was called a national danger.

Other features of the congress are described in some detail by Cora Frances Stoddard (*Survey*, Oct. 9, 1909, xxiii, 81).

Dr. T. Laitinen, professor of hygiene at the University of Helsingfors, reported studies in human families which confirmed his long and careful observations on animals, and which showed that the birth-weight and subsequent eight months' development of children of drinkers averaged less in a group of over 20,000 than in the case of children of non-drinkers. Poorer hygienic conditions in home and care afforded by the drinking parent, as well as the alcohol itself, undoubtedly had an influence in producing these results.

Dr. Karl Graeter, a nerve specialist of Basel, Switzerland, gave statistics showing that from 9 per cent. up of the children of moderate drinkers investigated were mentally defective or tuberculous, and from 17 per cent. up of the children of heavy drinkers, as against 5 per cent. of the children of abstainers.

The discussion on alcohol and crime, of course, reinforced the evidence of years as to the close relation between crime and drink. The lord chief justice of England, Lord Alverstone, declared that after forty years at the bar and ten years as a judge, he had no hesitation in saying that in 90 per cent. of the crime in England, drink was a factor. Lieutenant-Colonel McHardy of Edinburgh stated that in Scotland in 1907, there were about 90,000 cases of public disorder due to drink.

The rational explanation of these statements was given by Dr. Legrain of Paris, who said: "Alcohol produces an intoxication which is only a brief attack of lunacy. There is no other term which describes the almost instantaneous disorders which impair the judgment, the reason, and exactitude of sensation, and which destroy the will only to install brute impulse in its place."

Sir Thomas Whittaker, as president of one of Great Britain's largest life-insurance companies, stated that their non-abstainers were so carefully selected that the mortality was less than in other societies. Even then, the records of the company showed a difference in favor of the abstainers of from 25 to 30 per cent., showing their better health and longevity.

Practical dealing with the alcohol problem in the light of the discussions of this congress resolves itself into the essentials of all social reform: popular education as to the perils involved, inculcation of respect for individual and community good, elimination of sources of temptation as rapidly as possible; cure of the victims if attainable; if not, isolation for the sake of public order and public welfare.

Gastroenterocolitis in Infants.—H. B. Sheffield (*Merck's Archives*, July, 1909) is inclined to regard the various gastro-intestinal disturbances usually described as "gastritis," "enteritis," "colitis," "gastroenteritis" and "enterocolitis" as mere stages of one and the same pathologic condition, and discusses the subject in question from this point of view. Occasional vomiting and diarrhea, occurring as a result of unusual overloading of the stomach, too hasty feeding, ingestion of indigestible articles of food or foreign bodies, exposure to sudden atmospheric changes and undue excitement, etc., are not rarely observed in otherwise apparently healthy, well-nourished children, and if of brief duration are of no special clinical significance. These attacks may even be accompanied by fever, mild cerebral irritation, colic, etc., and yet remain outside the domain of pathology, or represent an affection which is generally spoken of as simple indigestion or the first stage of gastroenterocolitis. The second stage of gastroenterocolitis is generally described as gastrointestinal catarrh or dyspepsia.

Ordinarily, these manifestations set in insidiously, and if not promptly arrested grow worse gradually, arousing little if any anxiety on the part of those in charge of the baby, or are lost sight of, sometimes because of coincident "teething" (with the laity the presumptive cause of all ills) until there is a sudden aggravation of the condition—supervention of the third stage of the disease. In this stage gastroenterocolitis assumes a very acute course. It is manifested by violent vomiting, excessive thirst, frequent, thin watery, brownish, greenish and later colorless or blood-stained stools. The vomitus is acid in reaction, bile-stained and offensive in odor. The bowel movements vary from 10 to 15 in twenty-four hours, and are followed by griping pain and tenesmus. The child is very restless, feverish, sleepless, and, with the symptoms persisting a few days, rapidly loses in weight, and sinks into a state of collapse, followed by convulsions, coma and death.

Closely allied to the gastroenterocolitis just described (though possibly differing as to the exciting micro-organism), and most probably representing only a severer "fulminating" form of the same disease, is the so-called infantile "summer complaint," or cholera nostras infantum. To prevent the graver forms of gastroenterocolitis, promptly remove the causes and effects of the mildest symptoms of the disease. Attention to every detail of rational feeding and personal hygiene are the surest means of prevention. The active treatment should begin with the earliest inception of the gastrointestinal disorder. Regulation of diet is the most efficient therapeutic measure, and is almost invariably attended by improvement in the child's condition, if the treatment is begun with a few hours' starvation of the patient and prompt cleansing of the alimentary tract of its obnoxious contents. Feeding, breast or bottle, should at once be suspended until such time as exigencies for resumption of feeding will demand. In the meantime, especially in the absence of strong contraindications, such as violent vomiting, the infant should receive small quantities of hot or cold, pure water, or a light infusion of black tea. Recurrent vomiting calls for prompt attention. Ordinarily, vomiting can be controlled by "ice-sand," minute doses of calomel with or without bicarbonate of soda or bismuth; bismuth or cerium oxalate; tincture of iodin (in 1/30 drop doses, to be repeated every hour or two); silver nitrate (1/100 gr.); a sinapism to the spine or epigastrium, and, if all else fail, lavage. Lavage should be supplemented by enteroclysis, and, with the vomiting checked, also by a small dose of castor oil. Where diarrhea persists, an astringent mixture like the following is useful:

℞.	gm. or c.c.	
Bismuthi subcarbonatis		
Misturæ cretæ comp.		
Syrupi rhei aromatici		
Glycerini		
Aquæ menthæ piperitæ	āā 8	ʒi
Aquæ destillata	60	ad. ʒii

M. Sig.: One teaspoonful every two hours for a child one year old.

The camphorated tincture of opium may be added for the relief of pain. After complete cessation of vomiting, resume feeding, first with small quantities of toast or barley-water, and several hours later diluted cow's milk or breast milk.

In fulminating attacks of gastroenterocolitis, the treatment must be prompt and more heroic. In the initial, febrile stage, after a single but thorough irrigation of the stomach and bowels, the patient is given 1/50 gr. of morphin and 1/500 gr. of atropin hypodermically, is wrapped in warm blankets and sent outdoors. In the algid stage powerful stimulation is in order. Thus a hot bath with brisk rubbing of the body, a hot high enema (injected slowly so as to be retained), hot water by mouth, hypodermic administration of sterile camphorated oil (8 drops of a 15 per cent. solution); strychnin 1/60 to 1/30 gr.; caffein sodium benzoate 1 gr.; or whisky 20 gtts., and hypodermoclysis (1 to 6 oz. of a 0.6 per cent. hot sterile salt solution). As the patient improves, a milder course of treatment is resorted to. Convalescence usually proceeds at a very slow pace, and is frequently interrupted by milder exhibitions of gastrointestinal indigestion, which, if not promptly yielding to energetic treatment, eventually lead to chronic involvement of the alimentary tract.

The course of chronic gastroenterocolitis varies in individual cases. At best, the prognosis is very grave (50 per cent. mortality), especially so in infants reared under bad hygienic conditions and in want and misery, and in those born with lowered vitality and congenital constitutional defects. The patient should be removed from the insanitary surroundings and intrusted to the care of some one who would obey orders. Regulation of diet is most essential. A complete cure of gastroenterocolitis in young infants is frequently effected by a prompt change from bottle to breast feeding. The medicinal treatment of chronic gastroenterocolitis is chiefly symptomatic.

Prophylaxis of Recurring Headaches.—H. Hirsch refers to what he calls "habitual headaches," and declares that people are educated into the headache habit unconsciously in many cases, and that effectual prophylaxis is possible. When children see how everything in the household bends on the days when "mother has one of her headaches," they learn to ascribe great importance to headache in general, to seek for it in themselves, and to magnify the slightest ache into "inheritance of mother's tendency to headache." They are thus educated into the headache habit. He sees another factor in the peculiar condition of semiwakefulness as one starts to wake in the morning. This is a close approach to the hypnotic sleep, he says, and the individual actually hypnotizes himself during this intermediate phase between sleeping and actual waking. Who has not had the experience, he exclaims, during this stage of semiwakefulness that the cares of the preceding day come back to the mind with depressing gloom—mole-hills are magnified into mountains and mere possibilities of trouble into malign certainties. If the memory of a headache in the past crops up during this period of semi-wakefulness, the dread of the headache hypnotizes the mind into accepting a headache as an actual fact. Massage of the head is liable to induce a kind of semihypnotic condition, against which he expressly warns, and he also advises means to ensure rousing and waking completely as soon as one wakes to semiconsciousness. In his communication on the subject in the *St. Petersburg. med. Wochenschrift*, September 25, he urges the family physician to instruct parents to refrain from paying too much attention to the little aches and pains of their children, and also to tell the parents that—for their children's sake—they must give up the right to their own headaches, that is, they must rise above them, not yield supinely to them.

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190

Medicolegal

Validity of Contract of Assistant Not to Practice in Same Place After Termination of Employment

The Supreme Court of Colorado had, in Freudenthal vs. Espey (102 Pac. R. 280), a suit brought by the latter party, its first case for decision involving the question of the validity of such a contract as the one there, whereby the defendant, employed as the assistant of the plaintiff, agreed that on the termination of his employment he would cease "the practice of medicine, surgery or obstetrics or the branches of either," directly or indirectly, in the city, a place of about 10,000 inhabitants, for a period of five years.

Such contracts, the court says, must have an actual consideration appearing from or in the contract, or, at least, set forth in the complaint. What is termed a legal consideration is sufficient. It will not be inquired whether or not it is adequate, or, in other words, equal in value to the restraint agreed on. Nor will the court inquire whether the defendant in submitting to the restraint made a judicious contract.

In this case the consideration on which the defendant entered into the contract as expressed therein was "the salary and compensation" which would inure to him by reason of the employment and association. The salary was $125 a month. Then there were mutual promises to be performed which were the consideration for each other. The plaintiff was to introduce the defendant to his patients and friends, furnish proper conveyances, and in return the defendant was to exert his skill and attend to the professional business of the plaintiff and "earnestly endeavor to increase and built" it up. It was certainly of great benefit to the defendant, an inexperienced professional man, to be associated with a capable and efficient member of his own profession, long experienced, and enjoying an extensive practice. The public were likewise benefited, locally, in having the inexperienced practitioner under the direction of, and guided by, one skilled in his profession, and equally so would the public elsewhere be benefited when he engaged in his profession for himself. The court is clearly of the opinion that the facts of this case disclosed a sufficient legal consideration.

Taking up the next question of whether the contract was reasonable, the court says that agreements like this must be construed with reference to the objects sought to be attained by them. The object here was the protection of the plaintiff against competition in his profession. The nature of the business to protect was a medical practice extending far beyond the limits of the city. He possessed this business and the knowledge and the skill that enabled him to acquire it. Certainly in limiting the restriction to the city and for the period of five years was only affording a fair protection to the interests of the party in favor of whom it was given, and not so large as to interfere with the interests of the public. The restraint was no larger than the needs of the plaintiff required. It was of material benefit to him and was not oppressive on the defendant, nor was it in any sense injurious to the public. The contract was in no wise forbidden by any principle of policy or law. The defendant could be as useful to the public at any other place as in the city in question, and the interests of the community elsewhere were as important as they were there. Here the defendant had no business, was inexperienced and presumably unskilled, and desired and sought the benefits that would accrue to him by association with one so learned and skilled in his profession as the plaintiff. It is a known fact that professional skill, experience, and reputation constitute part of the individuality of any particular person, and the amount of business which such person does depends largely on the confidence reposed in him personally as a professional man. Under such circumstances it is not to be presumed that one whose personal excellency and skill have brought him a profitable business will take another in, and by vouching for such other's skill and honor endear him to his own patients and leave such other free to steal away his profits.

The circumstances under which the defendant entered into the employ of the plaintiff here were such as to justify the latter in asking him to enter into some agreement of the nature of that involved in this suit. It was of importance to the plaintiff to exact of the defendant a covenant which would prevent him on the termination of the service for utilizing the knowledge and experience he had gained by such service in destroying the plaintiff's business. It was reasonable and proper. Besides, the court is not disposed by judicial decree to render it practically impossible for the unlearned to better their condition, and become skilled in a trade or experienced in a profession, by means of proper apprenticeships, as it would do, were it to declare this contract void. Few professional men would take assistants and intrust them with their business, impart to them their knowledge and skill, bring them in contact with their clients and patients, unless they be assured that the knowledge and skill imparted and the friendships and associations formed would not be used, when the services were ended, to appropriate the very business such assistants were employed to maintain and enlarge.

A distinction exists between that class of contracts binding one to desist from the practice of a learned profession and those which bind one who has sold out a mercantile or other kind of business and the good will therewith connected, not to engage again in that business. In the former class there should be a reasonable limit as to time so as to prevent the contract from operating with unnecessary harshness against the person who is to abstain from practicing his profession at a time when his so doing could in no wise benefit the other contracting party. In the latter class such limit is not essential to the validity of the contract, but the restraint may be indefinite. The contract in this case met the requirements of this rule.

Entertaining these views, the court affirms a decree in the plaintiff's favor, enjoining the defendant from doing what he agreed not to do.

Validity and Construction of Illegally Limited License—Right to Verification License

The Court of Civil Appeals of Texas says, in Board of Medical Examiners of Texas vs. Taylor (120 S. W. R. 574), that the board refused Mrs. Taylor's application for the verification license required by the medical practice act of 1907 to practice medicine, tendering her instead one to practice "obstetrics only." This was based on the fact that her original license, issued by a district board of medical examiners in 1889, used the words, "branches of obstetrics and diseases peculiar to women and children." But the district board certified that it had examined the applicant "as required by the laws of the State of Texas," and was "satisfied" as to her "qualifications," while it was duly established that from such time she had been a legal and regular practitioner of medicine, in general practice in the state.

Under these circumstances, the court considers that she was entitled to a writ of mandamus to compel the issuance of a verification license "to practice medicine," without the limitation sought to be imposed on her. It says that it does not think that in the facts admitted and by giving proper effect to the entire language of the certificate that the words in the certificate, "branches of obstetrics and diseases peculiar to women and children," were intended, or should be so construed, by the board to declare that they were not "satisfied" as to the applicant's qualifications in the requirements of the law. If the board intended by the words just mentioned to designate in the certificate the branch or department of medicine that she was to practice, any such designation would have no legal force or effect, would be surplusage, and would not affect her legal rights in the premises. So the fact, appearing from the certificate and admitted, that she appeared before the board, not as an applicant to practice midwifery or obstetrics only, and bearing in mind that the board was not authorized to give certificates "to females practicing midwifery exclusively," and it appearing that the board intended to and did act within its legal authority, it follows that the court would not be justified or warranted in construing the certificate in question to be a certificate intended to certify the right to practice obstetrics only.

Holding as the court does, that the legal effect of the certificate granted to the applicant by the district medical board was to authorize her "to practice medicine under the laws at the time in force, it follows that she was entitled to a verifi-

cation license at the hands of the state board as broad as the legal effect of her certificate, which, by force of the law, was "to practice medicine." The duty of verification imposed on the state board by the law is to confirm or substantiate something already done. The power involved in the verification extends to the ascertainment of the genuineness and valid existence of the license previously by law granted by authorized board, and the identity of the person claiming and presenting the same, there being no cause as defined in section 11 of the act authorizing a refusal to issue.

Current Medical Literature

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York

November 13

1 *Diabetic Coma: Is It Due to Acidosis? H. S. Stark, New York.
2 *Treatment of Amebic Dysentery. W. E. Deeks and W. F. Shaw, Ancon, Canal Zone.
3 Surgical Treatment of Severe and Late Cases of Amebic Dysentery. A. B. Herrick, Ancon, Canal Zone.
4 *Pathogenesis of Tabetic Arthropathies Based on an Anatomic and Clinical Study of Two Cases. A. Gordon, Philadelphia.
5 *Six Hundred Cases of Heart Disease. J. N. Hall, Denver.
6 Twenty Cases of Pulmonary Tuberculosis without Bacilli in the Blood. L. Rosenberg, Bedford Station, N. Y.
7 Wrist Support for Sphygmographic Tracing. D. Felberbaum, New York.

1. **Diabetic Coma.**—Stark is opposed to the assumption that the coma is due to acidosis, because: 1, A decided acetonuria occurs in the course of numerous diseases of widely different characters, *e. g.* gastrointestinal disorders of childhood (cyclic vomiting), acute yellow atrophy of the liver, eclampsia, pernicious vomiting of pregnancy, intoxications from metals and anesthetics, etc. 2, Acidosis may occur in health on a continuous sugar-free diet, and also during physiologic starvation, and during inanition from wasting disorders, such as carcinoma and tuberculosis. 3, Adyspneic coma, not unlike true diabetic coma, is encountered in other diseases than diabetes, such as measles, scarlet fever and typhoid. Save for the presence of dextrose in the urine, these comas could not be clinically differentiated. 4, Diabetic coma may occur without acidosis, but with a large ammonia excretion. There are quite a number of such cases recorded in literature and they have an important bearing on the question of the origin of coma. 5, Alkali therapy has been notoriously a failure, either as a prophylactic or as a curative measure. Stark believes that the failure of alkali medication, either to abort or to tide the patient over an attack, seals the fate of the acidosis theory.

2. **Treatment of Amebic Dysentery.**—The rest-supportive treatment, consisting of rest in bed, a milk diet, the use of mild irrigations and bismuth subnitrate in heroic doses, has given Deeks and Shaw by far the most satisfactory results. Surgical interference, they say, is indicated if improvement does not rapidly follow the above-mentioned method.

4. Abstracted in THE JOURNAL, July 31, 1909, page 405.

5. **Heart Disease.**—This is an elaborate statistical analysis of the subject.

Boston Medical and Surgical Journal

November 11

8 The Dysentery Epidemic at Danvers Hospital in 1908. C. T. Ryder, Boston.
9 Investigation of Possible and Probable Sources of Infection and of Causes of Spread of Dysentery in Danvers Hospital. C. T. Ryder, Boston.
10 Identification of Epidemic Dysentery in Danvers Hospital as Due Mainly to *Bacillus Dysenteriæ*. E. T. F. Richards, A. H. Peabody and M. M. Canavan, Boston.
11 Agglutinations in Danvers Dysentery Cases: Comparative and Serial Tests with Shiga and Flexner-Harris Strains of *Bacillus Dysenteriæ*. E. T. F. Richards, Boston.
12 The Blood Cell Picture in Bacillary Dysentery. M. M. Canavan, Boston.
13 The Lesions of Bacillary Dysentery. E. E. Southard and E. T. F. Richards, Boston.
14 The Nervous System in Bacillary Dysentery. E. E. Southard and C. G. McGaffin, Boston.
15 Ulcerative Vaginitis in a Case of Bacillary Dysentery. M. M. Canavan, Boston.
16 Occurrence of Dysentery in Hospitals and in the Community at Large, with a Summary of Prophylactic Measures which Should be Employed to Check the Disease. C. T. Ryder, Boston.
17 Conclusions from Work on the Danvers Dysentery Epidemic of 1908. E. E. Southard, Boston.
18 *Vaccine Treatment of Lobar Pneumonia. T. Leary, Boston.
19 Immediate Results and Surgical Complications of Gastro-enterostomy. F. T. Murphy, Boston.
20 Physiologic Aspects of Gastroenterostomy. W. B. Cannon, Boston.

18. **Vaccine Treatment of Lobar Pneumonia.**—Believing that the data obtained from the treatment of cases of alcoholic pneumonia would at least be suggestive, Leary appealed to several medical groups to test the value of vaccine on the alcoholic and extreme cases. Pneumococcus vaccine was furnished for the treatment of 34 patients of this type, of whom 6 died (17.7 per cent). In a larger series of cases of ordinary pneumonia (49), 15 per cent. came to crisis in three days, and but 2 deaths were reported. The total deaths for the series of 83 cases were 8, or 9.7 per cent. It was noted by most observers that rapid relief of toxemic conditions, which were present in serious cases, followed the use of vaccine, and in cases of uncontrollable delirium an abatement of the delirium was prompt. The results are encouraging enough, Leary believes, to justify the wider application of this treatment. For the purpose of obtaining data from a sufficient number of cases to furnish material for definite conclusions, a fund has been established through the munificence of public-spirited citizens in Boston by means of which pneumococcus vaccine will be furnished without cost for the treatment of lobar pneumonia.

New York Medical Journal

November 13

21 Historical Sketch of the College of Physicians of Philadelphia. F. P. Henry, Philadelphia.
22 New Fields and Methods in Psychology. F. Peterson, New York.
23 *The Technic of Orcheopexy. F. Torek, New York.
24 *Central Dislocations of the Femur with Fracture of the Acetabulum. A. E. Halstead, Chicago.
25 Treatment of Appendicular Collections of Pus. W. L. Harris, Providence, R. I.
26 Pityriasis Rosea with Pseudovesicles. U. J. Wile, New York.
27 Medical Charity. L. H. Schwartz, New York.
28 No Free Hydrochloric Acid in the Stomach. J. Ballagi, Homestead, Pa.

23. **Orcheopexy.**—The operation devised by Torek is performed in the following manner: The testicle is exposed through an incision over the inguinal canal. The aponeurosis of the external oblique muscle is split to the same extent as in the operation of inguinal hernia. Testicle and cord are freed from all their coats. As regards the testicle, Torek is of the opinion that it is a decided advantage to liberate it by turning back its tunica vaginalis, as direct attachment to the fascia of the thigh is doubtless firmer than if the tunica vaginalis were interposed. The vas deferens and the vessels of the cord must be denuded of all their coverings. The gubernaculum testis is removed, so that nothing remains of the cord but the vas deferens and the blood-vessels, and these should be separated from all surrounding connective tissue to a point high up behind the abdominal parietes. Should any vessel exceptionally prevent the testicle from being drawn down, it may be divided.

The next step is to make an incision in the thigh to expose the fascia lata. The site for this incision is determined by taking the testicle out of the inguinal wound and drawing it down gently. The point at which it touches the thigh is chosen for the incision. The direction of the incision is from in front backward and slightly downward, thus coinciding with the natural lines of the skin. A pocket is made by gently digging with the finger from the lower end of the inguinal wound through the loose connective tissue to the bottom of the scrotum. Here the pocket is opened by an incision, which must correspond in length and direction precisely with that in the thigh, in order that the cut edges may be united evenly, without tension and without folds. The testicle may now be drawn down through the newly formed canal and be made to emerge from the scrotal wound. Or it may be left above until one is ready to suture it to the fascia. In that case, however, the canal should be kept open by inserting an instrument or a strip of gauze through it. Torek prefers this because the testicle being left above, is out of the way during the next step of the operation, the union of the upper edge of the thigh wound to the corresponding edge of the scrotal wound.

V 5
190

The next step is fastening the testicle to the fascia of the thigh. From three to five sutures of chromicized catgut are inserted, the number depending on the size of the organ. Enough of the tunica albuginea must be caught in the sutures to give a good hold. All sutures are inserted before any are tied. When the sutures between testicle and fascia have been tied, the anterior lip of the scrotal wound is sewn to the lower edge of the thigh wound. This suture is simple; but one must remember the tendency of the scrotal skin to turn in and must counteract it. The testicle is then completely covered by skin. The inguinal wound is closed in three layers, as in Bassini's operation for hernia, with the difference that the cord is not displaced, unless the simultaneous presence of a hernia renders this procedure desirable. In that case the deep suture, that uniting Poupart's ligament with the internal oblique and transversalis muscles and their tendon, is made before the testicle is brought down through the scrotum. In all other cases the cord is allowed to come down in the shortest and most direct way. The operation is now completed. With the aid of a dressing forceps a small strip of gauze is drawn carefully through the canal of skin between scrotum and thigh. It serves as a dressing for the deep suture. A large dressing is then applied covering the entire scrotum and the abdominal wound. This is changed after about six days, when all skin sutures are removed, except the hidden, inaccessible row of stitches between the scrotum and the thigh. After from three to six months the testicle is detached carefully, the scrotal wound closed over it, and the wound in the thigh is also closed.

24. **Central Dislocation of Femur.**—By central dislocation of the femur is meant fracture of the acetabulum with dislocation of the head of the femur into the pelvic cavity. In the literature most of the cases of this character are reported under the head of fractures of the acetabulum. From Halstead's point of view, the presence of the femoral head in the pelvic cavity is the most important element in these injuries. He reviews the literature and reports one case.

Lancet Clinic, Cincinnati

October 30

29 *Medical Education—Past, Present and Future. J. A. Witherspoon, Nashville.
30 *Modern Surgery of the Digestive Tract. J. B. Deaver, Philadelphia.

November 6

31 The Major Smith Modification of the Modern Cataract Operation—Intracapsular Extraction of the Cataractous Lens. R. Sattler, Cincinnati.
32 *Sarcoma of the Prostate. J. R. Eastman, Indianapolis.
33 Treatment of the Sac in Hernia. C. T. Souther, Cincinnati.

29, 30, 32. Abstracted in THE JOURNAL, Nov. 13, 1909, pp. 1674, 1675, 1677.

Wisconsin Medical Journal, Milwaukee

October

34 *Diagnosis and Treatment of Renal Calculi. J. F. Smith, Wausau.
35 Treatment of Acute Gonorrhea. D. J. Hayes, Milwaukee.
36 *Chronic Gonorrhea in Men. E. A. Fletcher, Milwaukee.
37 *Sociologic Aspect of the Venereal Diseases. P. F. Rogers, Milwaukee.

34. Abstracted in THE JOURNAL, Aug. 7, 1909, p. 481.

36, 37. Abstracted in THE JOURNAL, Aug. 21, 1909, p. 648.

Illinois Medical Journal, Springfield

November

38 *Clinical Significance of Albumin and Casts in the Urine. A. R. Elliott, Chicago.
39 Nature of Cardiovascular Changes in Nephritis. A. C. Croftan, Chicago.
40 *Value and Limitation of Salt-Free Diet and Restriction of Fluid in Nephritis. C. S. Williamson, Chicago.
41 Fracture of Pelvis and Rupture of Bladder. E. K. Lockwood, Virden.
42 *Diagnosis and Treatment of Stone in Ureter. A. D. Bevan and H. L. Kretschmer, Chicago.
43 *Vesical Symptoms Due to Diseases External to the Bladder. L. E. Schmidt, Chicago.
44 Pathology and Diagnosis of Dilatation of the Renal Pelvis. L. W. Bremerman, Chicago.
45 *Unique Foreign Body in the Male Bladder; Removal by Suprapubic Cystotomy. H. O. White and R. R. Duff, Chicago.
46 *Surgical Treatment of Exophthalmic Goiter. C. E. Black, Jacksonville.
47 Brain Tumor, with Specimens of Brain and Tumor. C. B. Horrell, Galesburg.
48 *Action of the Coal-Tar Anodynes. B. Fantus, Chicago.
49 Studies in Contemporary Workman's Compensation (continued). W. H. Allport, Chicago.

38, 40. Abstracted in THE JOURNAL, June 5, 1909, pp. 1881, 1882.

42. **Stone in the Ureter.**—This paper emphasizes the diagnostic value of the Roentgen ray in cases of stone in the ureter.

43. **Diseases External to Bladder.**—Schmidt presents the following original classifications: (1) Bladder symptoms due to constitutional or general diseases which are common to both sexes; (2) bladder symptoms due to diseases of neighboring organs or other urinary organs, which are common to both sexes; (3) bladder symptoms due to physiologic or pathologic conditions of the female genitalia, and hence present only in the female; (4) bladder symptoms due to pathologic conditions of the male genitalia, and hence present only in the male; (5) bladder symptoms due to primary pathologic conditions of the bladder itself, common to both sexes.

45. **Foreign Body in the Male Bladder.**—The patient, male, aged 28, was in the habit of introducing a small candle into the urethra. The foreign body slipped from his fingers beyond reach, and passed back into the membranous urethra. In attempting to extract the candle he forced it deeper back until the last attempt forced it up into the bladder.

46. Abstracted in THE JOURNAL, June 19, 1909, p. 2020.

48. **Action of Coal-Tar Anodynes.**—Speaking of the pharmacology of some of the popular combinations, Fantus says that first and foremost in popularity is the combination with caffein, usually in the proportion of one part caffein to three parts of the coal-tar derivative. The caffein is supposed to antagonize the collapse action. That it is not very successful in this respect is evident from the fact that just such combinations as are found in bromo-seltzer, antikamnia, etc., have repeatedly produced death. Perhaps the main reason for the popularity of this combination lies in the fact that caffein has a specific action in temporarily overcoming fatigue and the symptoms produced by it, such as the aches and pains of nerve-tire. In just such pains the coal-tar anodynes are also of value. A combination of the two undoubtedly acts with greater force in cases of this kind than either remedy alone. We must not forget, however, that caffein produces wakefulness. Therefore, this combination must not be used in the thoughtless manner in which it has so often been employed in the past. It is especially indicated in fatigue disturbances; it is especially contraindicated in insomnia and in conditions of excessive nervous irritability. Combination with a bromid is likely to be of advantage in the last-mentioned condition.

Pennsylvania Medical Journal, Athens

October

50 *President's Address: Physicians and the Public. G. W. Wagoner, Johnston.
51 Municipal Campaign for Reducing Infant Mortality. S. W. Newmayer, Philadelphia.
52 *Influence of Factory Inspectors on Public Health. H. R. Wood, Philadelphia.
53 Then and Now. L. W. Fox, Philadelphia.
54 The Problem of Infant Mortality. J. F. Edwards, Pittsburg.
55 Care of the Pregnant Patient. S. Coles, Philadelphia.

50. Abstracted in THE JOURNAL, Oct. 9, 1909, p. 1216.

52. This article also appeared in the *Virginia Medical Semi-Monthly*, October 22.

American Journal of Physiology, Boston

November

56 *Destructive Effect of Shaking on the Proteolytic Ferments. A. D. Shaklee and S. J. Meltzer, New York.
57 Effect of Subminimal Stimulation of the Pneumogastric Nerves on the Onset of Cardiac Rigor. D. R. Joseph and S. J. Meltzer, New York.
58 *Nuclein Synthesis in the Animal Body. E. V. McCollum, Madison, Wis.
59 *Elimination of Barium. G. M. Meyer, New York.
60 The Neurocytologic Reaction in Muscular Exertion. D. H. Dolley, Raleigh, N. C.

56. **Effect of Shaking on Proteolytic Ferments.**—Shaklee and Meltzer have studied the effect of shaking in partly-filled bottles, laid horizontally, on the action of proteolytic ferments. The more essential result of their experiments is that shaking may destroy the three ferments, pepsin, rennin and trypsin; that these are destroyed more rapidly at higher

than at lower temperatures; that trypsin is more easily destroyed than pepsin, and that the shaking produced by the respiratory movements is capable of causing some destruction of the ferments. The experiments showed that the inactivity of the ferment was not dispelled by standing, *i. e.*, it was not a mere inactivation. Recent experiments by other investigators show that other ferments also may be inactivated by shaking. Numerous older experiments have established that shaking is capable of influencing, fundamentally, bacteria, yeast, red blood cells and echinoderm eggs. The authors asume that ferments are organized substances, possessing a certain structure which may be destroyed by shaking. They consider that the action of each ferment is due to a specific vibration which it undergoes in response to shocks derived from the outside and which is made possible by its specific structure. Too vigorous shaking by destroying this peculiar structure makes the continuance of the specific vibration impossible.

58. **Nuclein Synthesis.**—McCollum, after feeding experiments on rats, comes to the following conclusions: The palatability of the ration is the most important factor in animal nutrition. Without palatability, the ration may possess all the necessary food ingredients and yet fail to nourish an animal properly. The failure of previous efforts to maintain animals on a mixture of relatively pure proximate constituents of food-stuffs was due to lack of palatability of the mixture. When sufficient care is given to changing the character and flavor of food supplied in such simple mixtures, it is possible to induce an appreciable amount of growth. Very young animals adapt themselves to a ration possessing a low degree of palatability much better than do adults. Other things being satisfactory, all the phosphorus needed for the growth of the skeleton, nuclein, or phosphatide formation, can be drawn from inorganic phosphates. The animal has the power to synthesize the purin bases necessary for its nuclein formation from some complexes contained in the protein molecule, and does not necessarily use purin bases of exogenous origin for this purpose.

59. **Elimination of Barium.**—Meyer finds that barium injected parenterally is not eliminated to an appreciable extent in the urine but passes out with the feces.

Ohio State Medical Journal, Columbus

October

61 Application and Limitations of Bacterial Therapy. W. J. Stone, Toledo.
62 *Traumatisms of the Sacroiliac Joint, and Their Sequelæ. R. Carothers, Cincinnati.
63 Recognition and Treatment of Pre-Eclamptic Toxemia. F. S. Clark, Cleveland.
64 Ureteral Calculi. C. M. Harpster, Toledo.
65 *Etiology of Senile Cataract. C. Lukens, Toledo.

62. Abstracted in THE JOURNAL, June 5, 1909, p. 1875.

65. Abstracted in THE JOURNAL, May 29, 1909, p. 1784.

Journal of Medical Research, Boston

September

66 *Arthritis Deformans. E. H. Nichols and F. L. Richardson, Boston.
67 *Leucocytic Extract: Its Action on the Course of Pneumonia. C. Floyd and W. P. Lucas, Boston.
68 Index to Tuberculin Treatment in Tuberculosis by the Minimal Cutaneous Reaction Method. W. C. White, D. A. L. Graham and K. H. Van Norman, Pittsburg.
69 *Action of Serums on Tuberculin Cutaneous Reaction. W. C. White and D. A. L. Graham, Pittsburg.
70 New Anaërobic Spore-Bearing Bacterium Commonly Present in Livers of Healthy Dogs, and Responsible for Many Changes Attributed to Aseptic Autolysis of Liver Tissue. S. B. Wolbach and T. Saiki, Albany, N. Y.
71 Device for Cultivation of Anaërobes in Plate Cultures, by Use of Alkali-Pyrogallic Acid Mixtures. T. Saiki, Albany, N. Y.
72 Rate of Autolytic Reaction and the Appearance of Gases and Acids in the Autolysis of So-called Sterile Livers of the Dog. H. C. Jackson, Albany, N. Y.
73 *Tumors Found in Wild Rats. G. W. McCoy, U. S. Public Health and Marine-Hospital Service.
74 *Changes Occurring in the Elastic Fibers of the Aorta with Advancing Age. L. S. Foster, Montreal.
75 An Extract of the Kidney. E. A. Aronson, Boston.
76 *Transplantation of Devitalized Arterial Segments; Morphologic Changes in the Implanted Segments. I. Levin and J. H. Larkin, New York.
77 Method for Obtaining Human Plasma Free from Chemical Action. Its Effect on Phagocytes. D. M. Cowie, Ann Arbor.

66, 76. Abstracted in THE JOURNAL, April 24, 1909, p. 1351.

67. **Action of Leucocyte Extract on Pneumonia.**—Aqueous extracts of rabbits leucocytes were used in the treatment of pneumonia in man. Harmful action was not observed in any of the cases and the authors "feel that where a case of pneumonia is treated early with extract of leucocytes, and full and frequent doses given where they are required, this may prove of considerable therapeutic value."

69. **Sera in Tuberculin Cutaneous Reaction.**—The results of Pickert and Löwenstein to the effect that sera of patients tolerant to large doses of tuberculin possess the power of inhibiting cutaneous tuberculin reaction, appear to be confirmed.

73. **Tumors in Wild Rats**—In 100,000 rats examined in the Federal Plague Laboratory at San Francisco from June 1, 1908, to May 15, 1909, 103 presented tumors suitable for examination, many being adenomas and a few typical carcinomas.

74. **Changes in Elastic Fibers of Aorta.**—The elastic fibers in the aorta require from thirty to thirty-five years to reach their full development. After about thirty-five years there is a quiet period for about fifteen years during which no developmental changes take place. After this time degenerative changes of greater or less extent are seen in the elastic fibers.

Louisville Monthly Journal of Medicine and Surgery

November

78 *Medical Education—Past, Present and Future. J. A. Witherspoon, Nashville, Tenn.
79 *Modern Surgery of the Digestive Tract. J. B. Deaver, Philadelphia.
80 Mistakes in Medical Practice. S. G. Bonney, Denver.

78-79. Abstracted in THE JOURNAL, Nov. 13, 1909, pp. 1674, 1675. Published in *The Lancet-Clinic*, Oct. 30, 1909.

American Journal of Surgery, New York

November

81 *Experiments in Certain Methods of Intestinal Anastomosis. C. Georg, Ann Arbor, Mich.
82 *Surgical Relations of Intestinal Gases. B. B. Davis, Omaha, Neb.
83 Septicemia Following Submucous Resection of the Nasal Septum; One Death, One Recovery. H. Hays, New York.
84 Spoon Enucleation of the Tonsil. A. M. MacWhinnie, Seattle, Wash.
85 Tracheotomy for Foreign Bodies in the Air Passages. W. F. Westmoreland, Atlanta, Ga.
86 Treatment of Eclampsia. F. C. Holden, Brooklyn.

81. **Intestinal Anastomosis.**—As the result of experiments which have extended over a period of two years, Georg concludes that the method of Parker and Kerr is the most practical for end-to-end anastomosis, and that of Capek for lateral anastomosis and gastroenterostomy.

82. **Surgical Relations of Intestinal Gases.**—Davis has found in his clinical work that postoperative tympany and trouble in securing intestinal evacuations have decreased in proportion to the care used in keeping the operating room warm and the exposed coils of intestines protected by gauze pads wrung out of hot normal salt solution. Even the slighter abdominal sections done with equal care in handling, but in a cool operating room, and without the protection of hot pads, have been followed by a stormy period of tympany and other disagreeable symptoms which accompany this condition.

Postoperative treatment should be as simple and natural as possible. There should be no starvation, unless the stomach or small intestine is in a condition to prohibit food, but also no forced feeding at first. The weakness which follows denial of all food, and the discomfort and disgust of too much should alike be avoided. Water given as soon as the patient calls for it has been found greatly to promote comfort and a feeling of well-being. It also seems to encourage postoperative peristalsis. Something to promote early restoration of peristalsis is of great importance if a patient would pass a comfortable convalescence.

For fourteen years Davis has made a routine use of strychnin hypodermically after operations, not so much as a heart stimulant as to encourage peristalsis. When it was first made use of it was a matter of frequent remark in the hospital that trouble from postoperative tympany was of rare occurence. Of late, cases that give trouble from unusual accumu-

lation of gas have been treated with salicylate of eserin in doses from 1/60 to 1/40 gr. hypodermically. Its use has been followed often by an early passing of gas and there can be no doubt that it promotes peristalsis to a remarkable degree and is of great use when the tympany is due solely to muscular atony. An absolute contraindication to the use of eserin is mechanical obstruction and it should be avoided just as one avoids cathartics when mechanical obstruction is present. When rightly used, eserin is an important advance in the treatment of atonic tympany.

Davis says that the points that practical surgeons need especially to have in mind are (1) to have as little fermentable substance as possible in the intestines before operation; (2) to do as little as possible during the operation which will interfere with the normal circulation in the intestinal wall; there should be a minimum amount of handling and resulting trauma; (3) to leave the intestines in the best condition for active peristalsis; long exposure and much cooling are inimical to active peristalsis.

St. Louis Medical Review

October

87 Wassermann Reaction for the Serodiagnosis of Syphilis. J. W. Marchildon, St. Louis.
88 Diseases of the Gall-Bladder. C. H. Powell, St. Louis.
89 Claims of Charles Darwin on the Homage of Scientific Posterity. J. Knott, Dublin, Ireland.

American Medicine, New York

October

90 Cancer of the Breast. A. L. Smith, Montreal.
91 *Nutrition During Critical Physiologic Periods. J. E. Davis, Detroit.
92 Value of the Obstetric Forceps in Abnormal Labor. V. A. Robertson, Brooklyn.
93 Recent Investigations of the Pituitary Gland. H. G. Beck and J. J. O'Malley, Baltimore.
94 Fracture of the Inferior Maxilla. N. P. Geis, Brooklyn.
95 *The Life-Insurance "Urine Examination"—A Farce. H. R. Harrower, Chicago.
96 The Surgical Treatment of Hemorrhoids and Choice of Method. A. Strachstein, New York.

91. Nutrition During Pregnancy.—Davis emphasizes the fact that food therapy in the toxemias of pregnancy is a factor of utmost importance as a preventive as well as a remedial measure. A high fat content is demanded in periods of enormous growth. In certain specific periods of growth a high proteid percentage is safely metabolized. A constant carbohydrate content must be obtained regardless of the proteid and fat proportion. In acidosis a high or almost exclusive carbohydrate diet for a short time is very efficacious.

95. Life Insurance "Urine Examination."—Harrower says that the examination of the urine, and especially that made for the benefit of life-insurance companies is altogether too crude, and not nearly extensive enough. Because of this individuals are being refused life-insurance who would make excellent risks, and, on the other hand, others are "passed" who are by no means what might be called healthy, and, in fact, are in a serious condition. The examination should be made by such as are skilled in this work and should be paid for accordingly. Three dollars is not an unreasonable figure.

St. Paul Medical Journal

November

97 Ocular Manifestations of Hereditary Syphilis. F. E. Burch, St. Paul.
98 Analysis of Kotzebue's *"Die Organe des Gehirns."* C. G. Cumston, Boston.
99 Medical Treatment of Gastric Ulcer. J. S. Gilfillan, St. Paul.
100 Benzoate of Soda as a Preservative. F. N. Foot, St. Paul.

Annals of Otology, Rhinology, and Laryngology, St. Louis

September

101 Laryngology and Rhinology Since Invention of the Laryngoscope; Especially the Participation of America in this Progress. J. Sendziak, Warsaw, Poland.
102 Nasal Obstruction: Its Effects on the Respiratory Organs and the General System. W. S. Anderson, Detroit.
103 The Phenomena of Vestibular Irritation in Acute Labyrinthine Disease; Studies of Dr. Barany of Vienna. P. D. Kerrison, New York.
104 Necrosis of the Cochlea. A. Michaelis, New York.
105 *Suppuration of the Labyrinth. L. Page, Indianapolis.
106 Sloughing Fibroma of the Nasopharynx. H. L. Swain, New Haven, Conn.
107 *Fatal Status Lymphaticus in a Patient Operated on for Tonsillar Hypertrophy under Cocain-Adrenalin Infiltration. T. J. Harris, New York.
108 Nerve Distribution in Relation to Nerve Reflexes Simulating Local Inflammation. A. A. Bliss, Philadelphia.
109 *Taking Cold. D. B. Kyle, Philadelphia.
110 Laryngeal Paralysis as Early Indication of Systemic Disease. G. T. Ross, Montreal.
111 Nasal Myxosarcoma in a Child of Three Years. G. T. Ross, Montreal.
112 *Aural Complications in the Exanthemata. C. R. C. Borden, Boston.
113 Nasal Tuberculosis. W. S. Renner, Buffalo.
114 Complete Extirpation of the Diseased Faucial Tonsil. J. S. Gibb, Philadelphia.
115 Surgical Treatment of Otitis Meningitis. G. Alexander, Vienna.

105. Suppuration of the Labyrinth.—Recently most exhaustive tests have been applied to these cases to determine if the labyrinth of the affected ear was in any way functionating. The Barany tests were negative in all cases for the operated ear. The hearing tests were uncertain. Until the Voss test for eliminating the normal ear was used, it was impossible to determine if a certain degree of hearing did not exist in the operated ear of all these patients. Page is of the opinion that all reported cases in which it is claimed that any degree of hearing remains after removing a part of the cochlea is a mistake, and that if the Voss test for eliminating the normal ear is applied to these cases it will convince the operator that complete destruction of hearing always follows the removal of any part of the cochlea.

107. Status Lymphaticus.—Harris' patient had an enlarged thymus, weighing 18 grams, which accounted for all the symptoms produced. There was the convulsion with pallor, followed by the intense cyanosis. There was, however, no tracheal stenosis, and the death, as shown by autopsy, was undoubtedly of cardiac origin.

109. Taking Cold.—Kyle divides the condition of taking cold into three classes: First, actual cold; taking cold; acute rhinitis. Second, an underlying systemic condition which produces some local manifestation and irritation in the mucous membrane, predisposing the individual to taking cold. Third, an underlying systemic condition in which the patient has not taken any cold, but the symptoms produced in the mucous membrane are those of a cold. Therefore, the expression "taking cold," as so frequently used by patients and sometimes by medical practitioners, is in many cases a misnomer. The practitioner of special medicine so often sees the individual with a condition resembling a cold in which there is no history of exposure nor usual systemic phenomena, and yet, to all intents and purposes, the patient is suffering from a cold in the head, or has taken cold. Review of the systemic conditions which bring about irritation of the mucous membrane which resembles taking cold, show that in a large percentage of cases of so-called cold in the head, no one remedy can be applied, and that the individual must be studied as carefully for the predisposing cause or underlying element as though typhoid or a beginning pneumonia were suspected.

The individual study of cases enables the physician to apply his remedial agent scientifically and not empirically prescribe a "cold" remedy. Kyle's experience has been that out of 100 persons presenting themselves for relief of what they call a cold in the head, or having taken cold, or frequently taking cold, at least 80 per cent. belong to the class of the systemic condition, either constitutional, organic, or chemical.

112. Aural Complications in Exanthemata.—Borden urges that general practitioners should regard aural discharge as a menace to hearing, and occasionally to life, and not as a more or less common complication without special importance. In a series of 1,164 cases previously reported by Borden in children up to 16 years of age, having aural diseases, 31.6 per cent, had chronic purulent otitis media of long standing.

Buffalo Medical Journal

November

116 *Personal Experiences in Gall-Bladder Surgery. H. E. Hayd, Buffalo.
117 Care of the Sick and Injured. J. C. Young, Cuba, N. Y.
118 Experiments on Animals Relative to the Question of Abdominal Supporters After Laparotomy. R. T. Morris, New York.
119 Consideration of Two Distinctly Different Types of Talipes Equino-Varus. R. O. Meisenbach, Buffalo.

116. Published in *American Journal of Obstetrics and Diseases of Women and Children*, November, 1909.

Journal of New Mexico Medical Society, East Las Vegas

November

120 Medical Education. G. K. Angle, Silver City.
121 *Hypodermic Injection of Mercury in the Treatment of Tuberculosis. L. S. Peters, Silver City.
122 Indigent Consumptive Proposition. C. M. Mayes, Roswell.

121. **Hypodermic Injection of Mercury in Tuberculosis.**—Peters' report covers a series of 7 cases. He found that his results with mercury are not better than with any other method of treatment.

California State Journal of Medicine, San Francisco

November

123 Diagnosis and Treatment of Ureteral Calculus. R. L. Rigdon, San Francisco.
124 Headache—A Symptom and its Significance. F. W. Miller, Los Angeles.
125 *Medical Side of Headache. J. W. Shiels, San Francisco.
126 The Eye as a Causative Factor in Chronic Headaches, with Reference to the Ear, Nose and Throat. W. S. Franklin, San Francisco.
127 *Nephritis with Unusual Features. C. H. Harry, Stockton.
128 Visible Movement of Blood in Retinal Vessels. C. S. G. Nagel, San Francisco.

125. **Headache.**—The following classification of headache is offered by Shiels:

I. FUNCTIONAL HEADACHE

A. TOXEMIC HEADACHES

(1) *Acute*

1. Specific infectious (fevers) frontal or general, seldom vertical or one sided. Increased by congestion.
2. Acute nephritis (following the above) acute uremia.
3. Acute composite diabetes (autointoxication with acetone bodies).
4. Puerperal states other than nephritic failure, presceptic.
5. Acute drug poisoning-*e. g.*, amyl nitrite, nitroglycerin, etc.

(2) *Chronic* (Including products of defective metabolism):

1. Kidney headache. From slight neuralgic type to severe with high grade arteriosclerosis. D.D. when severe with albuminuric neuritis from cerebral tumor.
2. Gouty headaches. May be a severe "plus tension" headache or mild "minus tension" headache.
3. Malarial headache, neuralgic in type, "brow ague." Short intermissions.
4. Rheumatic headaches common in childhood and associated with "school pressure." Frontal.
5. Syphilitic.
6. Sluggish liver headache associated with constipation.
7. Cirrhotic liver headache (more complicated than No. 6).
8. Constipation headache, without liver associations. (Also reflex.)
9. Intestinal dyspepsia headache, with or without constipation. (Also reflex.)
10. Gastric dyspepsia. (Also reflex.)
11. Gluttony of fats, proteids, or carbohydrates, i. e., acid products.
12. Slow drug poisoning, *e. g.*, arsenic, lead, etc.
13. Noxious air, etc.

B. NEUROPATHIC

1. Emotions and other psychic faults. (Hyperemic.)
2. Migraine (typical), two types, tonic or paralytic, but generally combination.
3. Recurrent or periodic headache without visual phenomenon.
4. Simple neurasthenic headache. (Not sharply defined, "cephalic sensation.")
5. Traumatic neurasthenic headache. (Generally sharply defined.)
6. Epileptic with or without fit.
7. "School pressure" headache.
8. Premenstrual headache other than migraine.

C. REFLEX

1. Errors and disorders of eye, ear, nose, throat and mouth. (When recurrent usually neuropathic, frontal sinus.)
2. Gastric, including hunger and fasting, hyperesthesic, scalp areas, temporal and parietal (D7 and D8).
3. Thoracic and hyperesthesic; scalp area, midorbital and fronto temporal (D4 to D7).
4. Abdominal and hyperesthesic skin areas, occipital, parietal, vertical and temporal (D7 to D10).
5. Migraine (anemic and hyperemic).
6. Periodic other than migrainous.

II. ORGANIC

1. Inflammations within: Encephalitis, local or diffuse from any cause. (This includes many of the above.) Leptomeningitis and pachymeningitis.
2. Inflammations without: Sinus disease. Bone disease (including middle-ear, syphilis, etc.).
3. Arterial degeneration (see chronic toxic headaches).
4. Tumors (including syphilis, tubercular cysts, etc.), severe, dull or acute, constant with paroxysmal attacks. No definite position unless superficial, preventing sleep. Intracranial pressure augments, vertigo, optic neuritis, etc.
5. Indurative (see toxic).

III. CIRCULATORY

A. ANEMIC, slowly produced; majority "minus tension" headaches; controlled by position and alcohol.
1. Systemic (convalescence).
2. Blood dyscrasias.
3. Cardiac debility.
4. Consequent on pressure.
5. Consequent on spasm.

B. HYPEREMIC, majority "plus tension."
1. Heart hurry (exophthalmic goiter, etc.).
2. Cold, etc. (peripheral spasm).
3. Drugs, nitroglycerin, etc.
4. Sunstroke (excessive heat, alcohol, anger).

C. PASSIVE CONGESTION, "mechanical headaches."
1. Mitral and other head lesions.
2. Mediastinal tumor.
3. Persistent cough.
4. Faulty attitude in sleep.
5. Collar restrictions, etc.

127. **Nephritis with Unusual Features.**—Harry's cases are interesting from the fact that, although the patients were all comatose before they died, none of them had any muscular twitching or convulsions. One case was remarkable from the fact that the patient lived six days with a total secretion during that time of from 4 to 6 ounces of urine. She was perfectly conscious until the night before she died, and did not complain from anything except the soreness of her gums from ulceration.

Journal Indiana State Medical Association, Fort Wayne

October

129 *The Art of Medicine. G. D. Kahlo, French Lick.
130 *Heredity and Disease. J. Collins, New York.
131 Sketches of the Medical History of Indiana. H. W. H. Kemper, Muncie.
132 Race Suicide. E. E. McGriff, Portland.

129, 130. Abstracted in THE JOURNAL, Oct. 23, 1909, p. 1422.

Albany Medical Annals

November

133 Import of Medical Education. F. C. Curtis, Albany.
134 *Use of Nitroglycerin in Chronic Myocarditis and Edema of the Lungs. S. B. Ward, Albany.
135 *Thymus Death. W. Kirk, Troy, N. Y.
136 Desirability of a More Perfect Medico-Dental Schindylesis. S. L. Dawes, Albany.
137 The Albany Hospital. J. M. Mosher, Albany.

134. **Nitroglycerin in Chronic Myocarditis.**—In Ward's experience, one-drop doses of 1 per cent. solution of nitroglycerin, given with digitalis, every two or three hours, are practically inert; but if from 1/20 to 1/10 of a grain be given every minute, for twenty or thirty doses, brilliant results will be obtained, days before the effect of digitalis can possibly be expected. In edema of the lungs the toleration for this drug is most extraordinary, and relief from dyspnea is uniformly obtained before the physiologic effects, such as flushing of the face and throbbing headache, are produced. Ward reports two cases of myocarditis with cardiac failure and edema of the lungs, one without and the other with valvular lesion, in which nitroglycerin was of the greatest service.

135. **Thymus Death.**—Kirk reports 2 cases with autopsies. Case 1, a boy aged 18 months found dead in bed. Thymus; greatly increased connective tissue, very slight fatty change; increase in lymphoid and large polyhedral cells. Case 2, sudden death after illness of two hours' duration. Enlargement of thymus; enlargement of mesenteric glands (lymphatic); hypostatic congestion of both lungs.

Atlanta Journal-Record of Medicine

October

138 Cases of Pellagra. H. R. Slack and W. R. McCall, La Grange, Ga.
139 Duties of the Obstetrician to His Patient. J. H. McDuffie, Columbus, Ga.
140 Diagnosis of Breast Tumors. J. P. Watkins, Opelika, Ala.
141 Rôle of Insects in the Transmission of Diseases. B. F. Rea, La Fayette, Ala.
142 Intussusception. W. C. Cook, Columbus, Ga.
143 Anesthesia. E. T. Green, Hickory Flat, Ala.
144 Intracapsular Fracture of the Hip-Joint. A. D. McLain, Salem, Ala.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

October 30

1 *Hernia of the Uterus in Men and Women. J. Bland-Sutton.
2 *Increase of the Hemolytic Power of Serums. D. Embleton and H. B. Shaw.
3 Appendicostomy for Various Forms of Colitis. F. C. Wallis.
4 *Fulminating Appendicitis. H. B. Butler.
5 *Pneumococcus Invasion of the Throat. W. E. Peacock.
6 *Whitehead's Operation for Hemorrhoids. E. S. Bishop.
7 *After-Results of Operative Treatment of Hemorrhoids. H. G. Anderson.
8 Acute Necrosis of the Pancreas; Sudden Death. B. H. Shaw.
9 Congenital Pyloric Stenosis Successfully Treated without Operation. E. M. Pearse.

1. **Hernia of Uterus in Men and Women.**—Bland-Sutton has collected many instances in which men with incompletely developed external genital organs have been brought up as women, and late in life suffered from strangulated hernia. Bland-Sutton says that it sometimes happens that herniotomy is performed on a child with normal female external genitalia, the surgeon removes a rounded grandular body from the inguinal canal, which he believes to be an ovary, but on microscopic examination it proves to be a testis. The most remarkable cases are those in which the surgeon performs an operation on a man with well-formed external genital organs for the purpose of removing a tumor from the scrotum, but the suspected tumor proves to be a uterus.

2. **Hemolytic Power of Serums.**—Embleton and Shaw succeeded experimentally in developing in the serum of animals, into which injections had been made of the organs of another animal of the same species, a change which consists in part at least, in the increase of the hemolytic power of the serum. Further, the emulsions of different organs appeared to have different powers of checking the hemolytic property of such experimental serums, the kidney possessing the greatest and the liver the least power, while the spleen and heart occupy an intermediate position, and are equally or nearly equally potent.

4. **Fulminating Appendicitis.**—According to Butler, the fulminating cases of appendicitis are due to the formation of a volvulus of the appendix, which is thereby strangulated, and the toxemia and localized peritonitis, which mark ordinary cases of appendicitis, are not present. Gangrene supervenes rapidly, and there is no time for adhesions to form and to shut off an abscess. General septic peritonitis, therefore, ensues if an operation is not performed in the first few hours after the onset of the pain. Volvulus of the appendix may, he thinks, develop in any case in which the appendix lies free in the abdomen, but not when it lies in the retrocecal fossa.

5. **Pneumococcus Invasion of the Throat.**—Peacock reports a case of this kind which was followed by pleuropneumonia and appendicitis. Operation was performed and the patient recovered.

6. **Whitehead's Operation for Hemorrhoids.**—After twenty years' experience with various operations for the cure of hemorrhoids, Bishop recommends Whitehead's operation as at once the most effective, the least painful, and the safest method, but it is necessary for success that certain precautions should be taken beforehand, and that the technic should be carried out very carefully. The intestinal tract should be previously cleared as much as possible. It is not only annoying, he says, but distinctly detrimental to the work, if large masses should make their appearance in the rectum during the ensuing week. Probably the best method of insuring their absence is the administration on the day but one before, of an ounce of castor oil, the taste of which may be disguised by an admixture with it of 2 drams of tincture of cardamom. On the day before operation, the action of this should be supplemented by a copious enema of soap and water, so that the rectum may be clean. At the operation itself another free douche of weak permanganate of potash solution should also be used during the process of dilatation.

Free dilatation of the sphincter should be done before any cutting is commenced. It should be gradual, plenty of time being taken over it, so that no tearing of the muscle is possible. During the operation any actively spurting vessel should be tied, but venous bleeding may be ignored; this bleeding is sometimes free, but will cease as soon as the operation is completed.

Hundreds of patients have been so treated by Bishop without any mortality, and in all with a speedy convalescence. In a few—possibly 2 per cent.—spasmodic urinary retention for a few hours occurred, and, in still fewer, pain at the anus has been complained of, but both speedily yielded to hot boric acid fomentations applied to the part. Catheterism has never been required and, although hemorrhagic discoloration has been seen in a few instances, suppuration or abscess has never followed. Recovery has, in the great majority of cases, been singularly uneventful, and in all complete.

7. **Operation for Hemorrhoids.**—Anderson claims that the Whitehead method should not be employed in all cases of hemorrhoids and that it is indicated in the following conditions: (a) When there is a general hemorrhoidal condition involving the whole circumference of the anal canal, and especially if there is a good deal of prolapse, and also in cases in which there is extensive thrombosis. (b) In cases in which, though the piles may not be large, there is a pathologic condition which may be described as a prefissure or a prefistula state. In this condition the anal valves are enlarged, and curious little blind submucous pockets may be found running for a varying length upward. In other cases these pockets run downward toward the anal margin.

Lancet, London

October 30

10 Balneology and Climatology. L. Williams.
11 *Need for Legislation in Regard to Anesthetics. F. W. Hewitt.
12 Certain Bacillus Coli Infections. J. C. Briscoe.
13 *Perforation of Stomach and Duodenal Ulcer. J. G. Andrew.
14 Selection of Patients for Spa Treatment. N. Wood.
15 Ankylostomiasis and its Complications in Eastern Bengal. R. W. Burkitt.
16 Case of Typhoid Spine. C. J. Wilson.
17 Endemic Cerebrospinal Meningitis Treated by Intraspinal Injections of Flexner's Serum; Recovery. D. D. Rosewarne.

11. **Legislation in Regard to Anesthetics.**—That legislation is necessary before the administration of anesthetics can be placed on a safe basis is the contention made by Hewitt. He points out that there is too much single-handed anesthetizing and operating done, especially by dentists, and that this is, in large part, responsible for the mortality from anesthesia. He presents the draft of a bill which proposes to make it a penal offense for any person other than a legally qualified medical practitioner to administer either a general or a local anesthetic. Such a step would also encourage physicians to specialize in anesthesia, which would be most desirable for all parties concerned.

13. **Perforation of Gastric and Duodenal Ulcer.**—Thirteen patients with perforation of the stomach and duodenum were seen by Andrew within a period of nine months. One patient with gastric perforation came to the operating table on three separate occasions; 10 of the cases were gastric and 3 were duodenal. The ages ranged from 16 to 72 years. The average age over all was 37.7 years. The average age of the gastric patients was 36.8 years, of the duodenal patients 41 years. Of the 10 gastric cases only 3 occurred in females, whose average age was 19 years. The 3 duodenal perforations were in men. In 12 of the 13 cases the onset might be said to be instantaneous; in one the onset was more or less subacute. In the majority no food had been taken for some time previously, and the time of perforation was oftenest in the late hours of the evening or in the early morning. In 8 there was definite history of pain after food and other gastric symptoms; in the remaining 5 no history of previous gastric trouble was obtained. In every case of this series pain was a prominent feature, but was quite impossible to define, except that it was severe, "doubled him up," "made him cry out," etc., and was equally difficult to locate apart from surface tenderness. The patients were so ill that speaking was an additional agony and as little as possible was said and indeed asked. In 6 cases, however, the pain was definitely referred to the epigastrium, in 3 others, the pain began around the umbilicus, remaining there in 1, and in the other 2 becoming epigastric later. In 2 the pain was felt in the shoulders as well as in the abdomen—both gastric—so that in 9 out of 13 cases the pain was referred to the upper part of the abdomen. Vomiting subsequent to the onset was stated to have occurred in 7 cases. Collapse was a prominent feature in most of the cases, depending on the length of time since the onset.

Appearance in most cases was indicative of severe pain; the patient looked very ill; the face was pale with malar flush. Distention was definitely present in 4 cases. Rigidity of the abdominal wall, with one exception, was present in every case. In 11 of the cases the rigidity was general, in 2 it was epigastric, but in every case it was more than evi-

dent over the stomach. In one case the main rigidity was found on the right side; in another the contraction of the recti was visible. The earlier the case the greater was the rigidity. In the only case in which it was stated to be absent nearly sixty hours had elapsed from the time of onset, and the general peritoneal cavity was found to be shut off. Tenderness, abdominal, on palpation, was present in every case but one, and in that case there had been tenderness which had passed off, and as this patient was seen within a few hours after perforation the tenderness from peritonitis had not had time to manifest itself; the ulcer, moreover, was on the posterior wall. In 6 cases there was epigastric tenderness only; in the remaining 7 it was general, with perhaps a greater degree of tenderness in the epigastrium. In 10 cases there was some alteration in the liver dulness; in 3 cases the liver dulness was completely gone, in 7 it was encroached on, and in 3 cases the liver dulness was normal. Signs of free fluid in the abdominal cavity were obtained in 6 cases. The length of time between onset and operation varied from four and a half to eighty hours. Seven patients were operated on under twelve hours; of these 2 died. In 8 instances the perforation involved the anterior wall of the stomach; in 6 of these it was toward the lesser curvature and close to the pylorus. In 2, the posterior wall was the seat; in 1 of these about its center, and in the other at the pylorus. In the 3 duodenal cases the ulcer was situated in the anterior wall of the first part, so that it might be said that in 11 out of the 13 cases the ulcer was situated in the immediate neighborhood of the pylorus.

Journal of Tropical Medicine and Hygiene, London

October 15

18 Dengue, or Three Day Fever. J. C. D. Allan.
19 Is Hemoglobinuric Fever the Expression of Anaphylaxis to a Malarial Plasmodium? J. B. Cleland.
20 *Rare Case of Congenital Maldevelopment. B. N. Ghost.

20. Congenital Maldevelopment.—The points noted in this case by Ghost were: 1. Talipes of the right foot; besides there were six toes on that foot. 2. Imperforate anus. 3. No external organs of generation, but only an atrophied scrotum, without the testes in it. 4. The abdominal wall, from the navel downward in the middle line, was partly deficient, and there was a protrusion, possibly the lower gut, with an opening at the end, looking upward, and through which the child passed stools. This protrusion could not be separated from the wall with which it was intimately fixed. The navel coalesced with this protruding mass, the umbilical cord coming out from the top. 5. Urine was passed in drops from a very small opening just under the protruding mass, but there was nothing like a urethra. The child was otherwise healthy and took milk well. No other organs seem to have shared in the defective growth. Heart sounds were normal. The whole protruded portion was not covered with skin, but had a mucous lining, quite soft and red.

Ghost believes that the rectum had no mesorectum developed to keep it *in situ;* it turned upward and found its way through the abdominal wall, which was deficient, and got fixed there. The opening at the end of it, which still serves as the outlet for stools, is looking upward and is big enough to admit a goose-quill. There being no external organs of generation and no urethra, the neck of the bladder opened directly at the lower part of the deficient wall.

Glasgow Medical Journal

October

21 Modern Moods and Movements in Medicine. T. Oliver.
22 Schools for the Deaf in Scotland and Ireland (concluded). J. K. Love.
23 Condition of the Eyes in the Deaf. W. Thomson.
24 A Retrospect of Glasgow Physicians and Surgeons. R. B. Lothian.

Intercolonial Medical Journal of Australasia, Sydney

September

25 Dysmenorrhea. G. R. Adam.
26 Distribution of Trachoma in the State of Victoria. J. W. Barrett and W. F. Orr.
27 *Abdominal Crises in Diabetes. R. M. Downes and R. A. O'Brien.

27. Abdominal Crisis in Diabetes.—Downes and O'Brien report two cases which suggest that a condition resembling abdominal crisis, apparently requiring operation, may occur in diabetes. They claim that a routine test for sugar in the urine in all acute surgical abdominal cases is not sufficient, for diacetic acid and acetone may be present in the absence of sugar in the urine. The first case was at first regarded as one of acute intestinal obstruction. The patient complained of pain in the lower abdomen, extending right across, and this pain had apparently gradually increased in severity. Bowels had not been open for about thirty-six hours—not even to flatus. Vomiting occurred three or four times during the day, and about two hours before admission the patient became very restless, with a rather vacant expression, and his mental condition became progressively duller, so that he was only semi-conscious on admission, and quite unable to answer any questions rationally. It was known that he had suffered from diabetes mellitus for the past eighteen months.

When about to operate it was found that one drop of urine markedly reduced Fehling's solution, and that the test with ferric chlorid for aceto-acetic acid was positive, so that it was considered wiser not to operate. The patient was sent back to the ward and given rectal injections of sodium bicarbonate solution every four hours. His bowels were slightly open a few hours later. He was given sodium bicarbonate—an ounce to a pint—intravenously, also rectal injections of half a pint, containing sodium bicarbonate (half an ounce) with dextrose (a dram) every four hours. He had two hourly drinks containing sodium bicarbonate half an ounce. At first his condition improved, but later the coma increased, and he died the next morning. At the post-mortem examination nothing abnormal was found in the gastrointestinal tract; the pancreas was small, atrophic and firm, but no microscopic examination was made; the kidneys were rather large, no other pathologic conditions being apparent. A younger brother, also a diabetic, died with rather similar symptoms.

The second patient, a girl, had been on strict diet for two months, with entire disappearance of sugar. Limited carbohydrate (toast) added to the diet, caused immediate reappearance of sugar (1.25 to 2.25 per cent., acid 1030, 21 to 40 ounces per day). Milk and toast were withheld, and the sugar immediately disappeared. Finally the patient vomited several times, and looked ill, complaining of intermittent paroxysms of abdominal pain. A late afternoon specimen of urine contained some diacetic acid and a slight trace of acetone. She was given a high enema, with return of a fair quantity of feces. Late that evening she complained of severe pain over the right kidney, traveling toward the labia. Early the following morning there was constant vomiting, with pulse 140, temperature 99.4 F. General tenderness over abdomen, dulness to deep and light percussion over lower abdomen, below a line joining the anterior superior spines, convex upward, and passing through the umbilicus, resonant in flanks, slight distention of upper abdomen, and greatly decreased liver dulness, no rigidity or lessened respiratory movement. Leucocytes, 47,000 and 50,000 (two counts). Some diacetic acid and acetone were present. A diagnosis was made of acute intestinal obstruction of some undetermined kind, probably causing autointoxication with production of diacetic acid and acetone. Later the abnormal abdominal dulness entirely disappeared. In the intervals of pain she was very sleepy, and almost semi-comatose.

It was decided that the child had had an abdominal crisis of unexplained origin, occurring in a diabetic, and, as only 2 drams of sodium bicarbonate out of 6 given by rectum during the morning had been retained, one pint of normal saline, with one dram of sodium bicarbonate were directed into the median basilic vein in forty-five minutes. Marked improvement in color and a drop in pulse rate to 144 was noticed within ten minutes of the insertion of the cannula. Vomiting ceased immediately. The first urine passed was strongly acid. She took 2 ounces of sodium bicarbonate in milk during the next eighteen hours, after which the urine became alkaline, diacetic acid and acetone gradually lessening, disappearing in a period of ten days, though sugar reappeared on a relaxed diet. Further course was uneventful.

Journal of Laryngology, Rhinology and Otology, London

October

28 Sarcoma of the Nose. J. Price-Brown.
29 Otosclerosis and Autointoxication. P. J. Cornet.
30 Labyrinthine Suppuration. A. Politzer.
31 Entotic Tinnitus. H. B. Tawse.

Dublin Journal of Medical Science

October

32 Pathologic Report of Rotunda Hospital for Year Ending Oct. 31, 1908. R. J. Rowlette.
33 Retroperitoneal Sarcoma. G. J. Johnston.
34 Outbreak of Typhoid Fever at Clontarf (Dublin County Borough). D. E. Flinn.

Annales de l'Institut Pasteur, Paris

September, XXIII, No. 9, pp. 665-743

35 *Immunization of Cattle and Horses Against Tuberculosis. (Vaccination du cheval. Essai de sérothérapie. II.) H. Vallée.
36 Experimental Basis for Preventive Vaccination Against Bacillary Dysentery. C. Dopter.
37 Intestinal Tuberculosis in Cattle. (Tuberculose intestinale chez le bœuf.) P. Chausse.
38 Biology of Vaccine Virus. Répin.
39 Intracellular Parasite in the Partridge of Indo-China. (Leucocytozoon de la perdrix du Tonkin.) M. Leger and C. Mathis.

35. **Vaccination Against Tuberculosis.**—Vallée reports what he thinks were the first attempts to hyperimmunize the horse by means of living tubercle bacilli, human or bovine. Of the 11 horses injected in the course of five years, 3 died accidentally and 4 were slaughtered, but not a trace of tuberculosis could be detected in any, while the serum of all had evidently acquired limited specific qualities, adapting it for human vaccination. About 100 tuberculous patients have been vaccinated with the horse immune serum thus obtained, with no mishaps, the results encouraging its further use.

Annales de Médecine et Chir. Infantiles, Paris

October 15, XIII, No. 20, pp. 685-720

40 The New-Born Infant. (Le nouveau-né.) E. Périer and E. Gaujoux.
41 *Blunders in Diagnosis in Respect to Intestinal Helmintha. (Des erreurs de diagnostic pouvant survenir à l'occasion de vers intestinaux.) Baros.
42 Benefit from Polyvalent Antidysentery Serum in Dysentery in Children. P. Coyne and B. Auche.

41. **Blunders of Diagnosis from Intestinal Worms.**—In the first case reported, a young man, a plasterer, had a tendency to mild epilepsy in early childhood but had outgrown it. He applied for relief from symptoms suggesting a serious heart affection, chills, cough, dyspnea, epistaxis, pulse very slow, slight fever, and abnormal heart sounds. Revulsion was applied to the heart region, and strophanthus and calomel were given, but the dyspnea increased with extreme oppression, staccato respiration, pulse of 43 and subnormal temperature; the face flushed and paled alternately. An enema brought a large ascaris and after a course of santonin all symptoms vanished. In the other case, the stools of a little girl, during a gastroenteritis, contained numbers of ovoid vesicles, supposed to be the ova of some unknown helminth until the microscope revealed that they were orange pulp cells.

Bulletin de l'Académie de Médecine, Paris

October 12, LXXIII, No. 32, pp. 167-192

43 *General Anesthesia by the Spinal Technic. (Rachianesthésie générale.) T. Jonnesco.

43. **General Anesthesia by the Spinal Route.**—Jonnesco does not consider it necessary to restrict the puncture to the lumbar region, but the chief innovation in his technic is the admixture of strychnin with the anesthetic which, he says, seems to annul its toxicity.

Presse Médicale, Paris

October 16, No. 83, pp. 729-736

44 *Benefit from Secondary Staphylococcus Infection in Tuberculous Pyopneumothorax. (Etude des réactions digestives des leucocytes.) A. Coyon and N. Fiessinger.

October 20, No. 84, pp. 737-744

45 Louis, the Father of Medical Statistics. (La méthode numérique en médecine.) A. Chaufard.
46 Lordosis not Sole Cause for Orthostatic Albuminuria. G. Schreiber.

44. **Benefit from Secondary Infection in Tuberculous Processes.**—The young man in the case reported presented symptoms of tuberculous purulent pleurisy of acute onset but becoming torpid with encysted pneumothorax. The effusion was evacuated occasionally and signs of secondary infection with the *Staphylococcus aureus* were discovered in a few months. This transformed the torpid tuberculous process and a cure followed. The secondary infection in this case evidently attracted increased numbers of polynuclears and their active ferment dissolved the tuberculous masses and permitted their absorption. After this digestion by the ferment, the tubercle bacilli in the focus were overcome by the natural defenses of the body.

Semaine Médicale, Paris

October 13, XXIX, No. 41, pp. 481-492

47 *Protrusion in Supraclavicular Fossa as Sign of Excessive Amount of Blood. (La voussure sus-claviculaire comme signe de la pléthore.) C. Trunecek.

October 20, No. 42, pp. 493-504

48 Paroxysmal Tachycardia and Arrhythmia. (Battements de cœur et arythmies.) H. Vaquez.
49 Treatment of Varices by "Intramuscular Inclusion of the Veins." M. Katzenstein.

47. **Protrusion in Supraclavicular Fossa as Sign of Plethora.**—Trunecek calls attention to the marked protrusion of the supraclavicular fossa when the vascular system contains an excessive amount of blood. This plethora is not so evident in the stronger-walled arteries as in the veins, and it is most evident where the veins are large and especially in the supraclavicular fossa. As the veins here dilate, the pressure from the excessive distention elsewhere on the parenchymatous organs is correspondingly reduced. There is no protrusion at this point when there is merely engorgement of blood in part of the vascular system; it appears only when the plethora is general, and generally is a sign that venesection is required. When sufficient blood has been withdrawn the protrusion subsides.

Archiv für klinische Chirurgie, Berlin

XC, No. 4, pp. 865-1102. Last indexed Oct. 16, p. 1339

50 Phenomena Observed after Inducing Defects in Lining of Stomach and Intestines of Dogs. (Folgeerscheinungen nach künstlicher Fortnahme einerseits des Serosamuscularisüberzuges, andererseits des Mucosaüberzuges am Magendarmtractus des Hundes.) A. Hoffmann.
51 *Treatment of Paralysis from Spondylitis. (Behandlung spondylitischer Lähmungen.) M. Gaugele.
52 *Treatment of Deformities. (Neue Probleme zur Behandlung der Belastungsdeformitäten.) H. Krukenberg.
53 *Cancer of Rectum. (Mastdarmkrebs.) A. Zinner.
54 *Experiences with Operative Treatment of Gastric Ulcer. (Erfahrungen über Excision und Resection bei Magengeschwüren.) E. Payr.
55 *Trephining for Traumatic Injury of Vault of Skull. (Zur Frage der Trepanation bei traumatischen Verletzungen des Schädeldaches.) M. M. Kusnetzow.
56 Alcohol and Iodin Disinfection of Hands and Field of Operation. (Desinfection der Hände und des Operationsfeldes mit Alkohol und Jodtinctur.) I. I. Grekow.

51. **Treatment of Spondylitic Paralysis.**—Gaugele declares that slow gradual reduction of the hump has proved extremely effectual in his experience in the cure of paralysis resulting from the deformity. He applies the correcting force after the child has been encased in a plaster cast reaching from the buttocks to the chin. The force is applied by means of a perpendicular screw in the top of a right-angled frame screwed to the table on which the child lies. A metal plate, cushioned with felt, is interposed between the hump and the correcting screw and the child rests on two concave cross-bars but does not feel them through the plaster cast. Gaugele has applied the correction 140 times in thirty cases, and has had a mishap in only one instance—a boy of 13 experienced transient tenesmus and weakness of the legs, but this was before the present dosage of the force had been adopted. He relates the details of a number of the cases in which complete paralysis or paresis was entirely cured by this simple technic which allows the children to be up and about, besides other advantages. The two cases of which illustrations are given show excellent results; the hump had existed for four and six years.

52. **Treatment of Deformities.**—Krukenberg thinks that sufficient attention is not paid to weight-bearing as a factor in the aggravation of commencing deformities. If a post stands squarely on top of another post of the same diameter, pressure from above will hold the posts all the more securely, but if the top of the lower post is pushed out of plumb, pressure from above only aids in pushing the lower post farther

out of the perpendicular, and the lower end of the upper post follows until the juxtaposed ends form an angle instead of a straight line. If the bottom of the lower post can then be tilted in such a way as to bring the plumb-line still through the center of the juxtaposed ends of the posts, pressure from above will still hold them together and tend to correct the position back into the single vertical line. This is the principle which he applies in correction of genu valgum and genu varum and other deformities, and with which he has obtained good functional results. Uncorrected, the deformity is being constantly aggravated by the weight-bearing pressure. He gives mathematical diagrams to explain the principle more fully and to show its application to various deformities. For flatfoot, a stirrup-like projection from the sole of the shoe, between the heads of the metatarsal bones and the tuberosity of the calcaneus, prevents the foot from being planted with the weight in the center; the weight has to be thrown either on the toes or on the heel, each of which positions corrects the tendency to flatfoot and puts an end to the flatfoot disturbances. Thirty-two illustrations accompany the article, showing the application of functional correction in this way to various deformities.

53. **Rectal Cancer.**—Zinner reports the ultimate outcome of 320 cases of rectal cancer in which an operation was done at Hochenegg's clinic since 1887. Permanent cures were realized in 25 per cent. of the 256 cases with an interval of more than three years. He gives summaries of 201 cases. His experience indicates that a complete cure is possible with any form of epithelial cancer, so that the anatomic variety is of comparatively little moment in comparison to the clinical course.

54. **Operative Treatment of Gastric Ulcer.**—Payr has treated gastric ulcer with resection or excision in seventeen cases since 1902, and states that the indications must be strictly individualized for each case but, other things being equal, that resection guarantees better results than excision. He urges the necessity for keeping record of the after-history of such patients to determine the technic ensuring the most favorable end-results, and whether resection and excision promise results superior to gastroenterostomy enough to justify their more common use.

55. **Trephining After Traumatic Injury of the Vault of the Skull.**—One of the eleven patients whose cases are reported by Kusnetzow was a woman of 70; the others were men. Each had a compound fracture of the vault of the cranium. When splinters are driven inward, the earlier the operative intervention the better the results; with simple fracture it is not indicated unless there are brain symptoms, and with simple fissure injuries expectant treatment is justified if the patient can be kept under constant supervision. Primary trephining is better for various reasons than when done secondarily. In case meningitis develops, the best treatment is by broad exposure of the field, by removal of large pieces of the skull bones, and introduction of absorbent tampons under the opened dura. When an operation has been done for cranial injury, the patients should be kept under observation for years to note the condition of the central nervous system in after years. Injuries of the frontal lobe are liable to entail a peculiar change in the character and temperament, a tendency to silly joking. *Witzelsucht*, the Germans call it.

Beiträge zur Klinik der Tuberkulose, Würzburg

XIV, No. 2, pp. 97-257. Last indexed Oct. 9, p. 1240

57 *Experiences with Spengler's I K in Pulmonary Tuberculosis. Alexander.
58 *Modification of the Death-Rate Studied from Standpoint of Progress of Civilization. (Wandlungen der Sterblichkeit im kulturgeschichtlichen Zusammenhang.) F. Köhler.
59 Granular Form of Tuberculosis Virus Taking Stain. (Ueber die nach Much färbbare granuläre Form des Tuberkulosevirus.) E. Wehrli and W. Knoll.
60 *Diagnosis of Human Tuberculosis by Anaphylaxis. Roepke and Busch.
61 Advanced Tuberculosis of Bronchial Glands without Clinical Manifestations. (Fall hochgradiger Bronchialdrüsentuberkulose ohne klinische Symptome.) A. Heisler and H. Schall.
62 *Specific Precipitins and Autoprecipitins in Tuberculous Blood and Influence on them of I K and Tuberculin. (Zur Carl Spenglerschen Blutzellenimmunität.) S. Fuchs-Wolfring.

57. **Spengler's I K in Treatment of Pulmonary Tuberculosis.**—Alexander reports indifferent results in the 11 cases in which this treatment was systematically applied. It proved by no means so harmless as Spengler claims, a febrile reaction being frequent with minute dosage.

58. **Modifications in the Death-Rate with the Progress of Civilization.**—Köhler cites historical records to show the conditions in regard to public health and hygiene in Germany from the thirteenth century to date. There are no records of the death-rate before that time. The wars and dispersion of troops at the close of campaigns contributed to the spread of epidemics, fully one-fourth of the population of Europe succumbing to the plague in 1347-1350. He states that at the beginning of the thirteenth century there were 19,000 leper asylums. Until the beginning of the fourteenth century there was no such thing as a medical profession, the care of the sick being almost exclusively in the hands of the priests or barbers. But as a medical profession became organized the members early acquired influence and many privileges in the cities, and city physicians were appointed. From this period hygienic conditions began to improve and the death-rate to decline.

60. **Diagnosis of Tuberculosis by Anaphylaxis.**—Roepke was unable to confirm Yamanouchi's statements in regard to the diagnostic value of the anaphylactic reaction in tuberculosis. (His statements were summarized in THE JOURNAL, Jan. 9, 1909, page 172.) Roepke is inclined to attribute Yamanouchi's findings to the preservative in the tuberculin used for the tests, as he was able to elicit the anaphylaxis reaction with a carbolic-acid solution alone.

62. **Spengler's I K in Pulmonary Tuberculosis.**—This communication issues from Spengler's laboratory at Davos and the findings in 1,200 examinations of blood mostly from different persons, are presented in tabulated form with the clinical experiences and conclusions in regard to the influence on the "blood-cell immunity" of I K and tuberculin. Eleven tables of curves are given showing the findings in regard to human and bovine tubercle bacilli under the influence of this specific treatment. The conclusions confirm, he asserts, his previous announcements in regard to the red blood corpuscles being the producers and storehouses of the immune bodies. (I K stands for *Immun-Körper*, "immune bodies.")

Berliner klinische Wochenschrift

October 11, XLVI, No. 41, pp. 1833-1876

63 *Appearance of Albumin and Tube-Casts in Urine with Chronic Constipation. (Auftreten von Albuminurie und Cylindrurie bei chronischer Koprostase.) W. Ebstein.
64 Chlamydozoa in Non-Gonorrheal Ophthalmia Neonatorum. L. Halberstaedter and S. v. Prowazek.
65 Cobra Venom Test in the Insane. (Ueber die Ablenkung der Kobragiftlähmolyse bei Geisteskrankheiten.) L. Omorokow.

63. **Albuminuria and Tube-Casts with Chronic Constipation.**—Ebstein always found the tube-casts few, small and hyaline when they were due to chronic constipation. In one such case a woman had been referred to him for chronic nephritis with hypertrophy of the heart, but all the symptoms subsided when the existing constipation was relieved, and there have been no signs of nephritis during the ten years since. The grave prognosis in this case had been based on the tube-casts and the fat granules clinging to them and the frequent, intense headache supposed to be a symptom of uremia. The toxins developed in constipation irritate the surface of the tubules in the kidneys, without injury of the parenchyma and interstitial tissue, but whether actual nephritis can develop merely from chronic constipation is still a question. It is certain, however, that in case of actual nephritis or other severe infections every effort must be made to put an end to autointoxication from chronic constipation. For this he has found large oil enemas the most effectual means. In some recent cases of severe diabetes the albuminuria vanished when the constipation was relieved, and even the glycosuria has materially subsided under appropriate diet. In all such cases the prognosis should not be made until the effects of constipation have had time to subside.

Deutsche medizinische Wochenschrift, Berlin

October 21, XXXV, No. 42, pp. 1817-1864

66 *Treatment of Contracted Pelvis and Indications for Pelvis-Enlarging Operations. (Behandlung des engen Beckens.) J. Veit.
67 *Indications and Technic for Puncture of the Pleura. H. Hochhaus.

68 *The Epidemic of Acute Infantile Spinal Paralysis. P. Krause and E. Meinicke.
69 *Seroreaction in Idiots. (Wassermannsche Reaktion bei Idiotie). Kellner, Clemens, Brückner and Rautenberg.
70 Negative Results of Serotherapy of Pneumonia in Children. (Kinderpneumonie und Pneumokokkenheilserum.) H. Brüning.
71 Negative Results of I K in Treatment of Tuberculosis. O. Roepke, H. Welcker and R. Bandelier.
72 *Objective Index of Condition of Nourishment. (Versuch zur objektiven Darstellung des Ernährungszustandes.) K. Oppenheimer.
73 Placenta Praevia. M. Hirsch.

66. **Indications for Treatment of Contracted Pelvis.**—Veit discusses the various measures in vogue among obstetricians and the indications for them according to the most recent published data and his own experience. He summarizes as follows his views in regard to the indications: Avoid all measures during pregnancy and in prophylaxis. Operate only in strictest necessity. Cesarean section should be done with an absolute contracted pelvis. With moderately contracted pelvis, in case of peril to the mother, forceps may be allowable in a few cases but otherwise Cesarean section is indicated. Pubiotomy is indicated in case of fever and streptococci in the birth passage. Version should be performed in case of peril to the child; Cesarean section only when version or forceps is impossible. All other operative measures should be rejected, as a rule, although they may be occasionally justified in special cases.

67. **Indications and Technic for Puncture of the Pleura.**—In concluding his article Hochhaus mentions that he has applied in a few cases Gilbert's method of autoserotherapy, reinjecting at another point a small amount of the effusion aspirated. The results were not conclusive in his hands but he adds that they have been satisfactory in the experience of others, although not so striking as those realized by Gilbert.

68. See Berlin letter, THE JOURNAL, Nov. 6, 1909, page 1575.

69. **Seroreaction in Idiots.**—Kellner states that among 216 idiots tested for syphilis by the Wassermann technic, a positive response was obtained in only 16. Some French writers have recently published a series of 76 positive responses in 246 idiots tested. Kellner thinks that the rarity of positive findings in his series shows that syphilis is not an important direct factor in the etiology of idiocy. Among the 16 giving a positive response to the Stern modification of the Wassermann technic, only 6 were free from signs of inherited or acquired syphilis, while the other 10 were in the group of 16, who were the only known syphilitics among the 800 idiots in the institutions investigated.

72. **Objective Index for the State of Nourishment.**—Oppenheimer says that he has long felt the need of some means to express objectively the actual condition of the patient in regard to nourishment, the significance of the terms "well" and "poorly nourished" varying with each speaker. After years of investigation he announces that the chest measure, taken at the nipples, multiplied by the circumference of the middle of the upper arm and divided by the height, gives a "nourishment measure" which is small in the poorly-nourished and large in the well-nourished and can thus serve as an index for the conditions in this respect. A still more exact index is the quotient of the chest measure divided by the arm measure; this he calls the "nourishment quotient." In a group of 123 well-nourished persons, the "nourishment measure" was 6.6 and the "nourishment quotient" 31.2 in 31 new-born infants; 8.5 and 31.4 in 34 older infants; 9.1 and 30.9 in 8 children, and 14.27 and 29.8 in 50 soldiers. In 110 moderately well-nourished infants and children the measure ranged from 5.9 to 9.3 and the quotients from 27.5 to 29.3. In 26 poorly nourished infants and children the measure was 5.6 to 7.1, and the quotient 25.9 to 27.1, while they were respectively 11.7 and 26.2 in 28 adult consumptives. Comparison of extensive series shows that the "nourishment measure" increases with the age but that the "quotient" is independent of the age and is a more exact index of the true relative condition of nourishment. The great drawback of the method is that it cannot be applied to women on account of the development of the breasts, and that a contracted thorax gives measurements liable to be misleading. In the 50 soldiers examined, the nourishment quotient averaged 30, the average chest measure being 92.1 cm. and the arm measure 27.4 cm., with an average height of 176.7 cm.

Deutsche Zeitschrift für Chirurgie, Leipsic

October, CI, Nos. 5-6, pp. 413-606

74 Ivory Prothesis for Lower Jaw. (Ersatz einer exartikulierten Unterkieferhälfte durch die König-Roloffsche Elfenbeinprothese.) P. Sudeck.
75 Involvement of Bone in Pavement Epithelium Cancer. (Auf Knochen übergreifende Plattenepithelkrebse.) T. Nakahara.
76 Experiences with Nail Extension. (Erfahrungen mit der Nagelextension.) W. Anschütz.
77 Abnormal Ossification in Cretin Skeleton. (Zur Kenntnis der Wachstumsstörungen am Kretinenskelett.) A. Löwen.
78 Primary Sarcoma of Knee Capsule. (Ein primäres Sarkom der Kniegelenkskapsel.) H. Burckhardt.
79 Carcinoma in Jejunum. (Ein hochsitzendes Carcinom des Jejunums.) Aitzer.
80 Two Cases of Primary Gastric Sarcoma. (Primärer Magensarkom.) F. Lofaro.
81 Operative Treatment of Serratus Paralysis. (Beitrag zur Operativen Behandlung der Serratuslähmung.) E. Enderlen.
82 Influence on Thyroid of Removal of Pancreas in Dogs. (Einfluss der Exstirpation des Pankreas auf die Schilddrüse.) C. Licini.
83 Outward Dislocation of Lower Jaw. R. Rube.
84 Abdominal Injuries in Troops During Peace. (Ueber die Bauchverletzungen in der Königl. Preussischen Armee, den Sächsischen und dem Württembergischen Armeekorps in den Jahren 1896-1906). Thöle.
85 Operative Bladder Hernia. (Das Hervorziehen der Harnblase bei Hernienradikaloperationen.) F. Brunner.
86 Exostosis on Plantar Aspect of Calcaneus. (Ueber den sogenannten Calcaneussporn.) E. Boerner.

Fortschritte der Medizin, Leipsic

October 20, XXVII, No. 29, pp. 1089-1120

87 *Stab Wounds of the Liver. (Stichverletzungen der Leber.) A. Nehrkorn.

87. **Stab Wounds of the Liver.**—Nehrkorn operated on three patients with stab wounds of the liver in the course of a few weeks in 1905. The injury was made with a knife with suicidal intent in one case, but it soon healed without complications. In another case a boy of 9 was impaled on an iron spike; the wound in the liver soon healed, although a hernia at the point where the drain had been inserted required a second operation three years later. In the third case a man fell on a tool he was carrying. The wound in the liver in all these cases was drawn up with two or three sutures. An empyema developed in the third case and a series of complications followed, but with final restoration to comparative health.

Jahrbuch für Kinderheilkunde, Berlin

October, LXX, No. 4, pp. 391-528

88 The Law of Energy in Human Physiology. (Das Energiegesetz in der menschlichen Physiologie.) W. Camerer.
89 The Differences Between Human and Cow's Milk. (Beitrag zu den Unterschieden zwischen Kuh- und Menschenmilch.) A. Schwarz.
90 Pathologic Anatomy of Atrophic Condition in Infants. (Zur pathologischen Anatomie der Pädatrophie—Dekomposition.) H. F. Helmholz.
91 Body Dimples on Children. (Hautgrübchen am Kinde.) W. Knoepfelmacher.

Medizinische Klinik, Berlin

October 16, V, No. 41, pp. 1539-1578

92 Cataract Operations. (Ueber Star- und Nachstar-Operationen.) C. Hess.
93 Application of "Optic Method" to Immunity Research. (Anwendung der "optischen Methode" auf dem Gebiete der Immunitätsforschung.) E. Abderhalden.
94 *Venous Thrombosis and Embolism of Pulmonary Artery. R. Kretz.
95 *Diagnosis and Treatment of Enlargement of Prostate. P. Wulff.
96 *Headache and Syphilis. (Kopfschmerzen und Syphilis.) Pickenbach.
97 Explanation of Action of Ferments. (Zur Klärung der Fermentwirkung.) Scherk.
98 Cystoscope Snare. (Verbessertes Operationszystoskop zur endovesikalen Entfernung von Blasentumoren.) H. Lohnstein.
99 Measurement of Radium Emanations. (Zur Messung der Emanation.) W. D. Lenkei and E. Weiss.

94. **Venous Thrombosis and Pulmonary Embolism.**—Kretz has been able to find some primary infectious focus in every case of fatal pulmonary embolism from primary thrombosis. In some cases the walls of the vein are inflamed but in others infection of the blood is responsible for the intravascular coagulation.

95. **Treatment of Enlargement of the Prostate.**—Wulff calls attention to the fact that sometimes it is impossible to palpate the prostate causing disturbances; in two such cases the gland was even abnormally small, and yet prostatectomy was followed by a clinical cure. Such cases reduce the impor-

tance for examination of the prostate by way of the rectum. The most important means for diagnosis is the discovery by catheterization of residual urine. When there is no trace of this, the disturbance is usually due to neurasthenia or kidney disease. In one such case a man of 70 had pus in the urine and signs of enlargement of the prostate, but the absence of residual urine led to discovery of a tuberculous process in the right kidney. In another case a man of 55 was referred to Wulff for prostatectomy after fifteen years of symptoms; ligation of the vasa deferentia ten years before had failed to benefit. The trouble proved finally to be tabes. In another similar case a man of 50 had complete retention about twice a year but no residual urine and he was advised against an operation. The diagnosis was cleared up by other signs later of a nervous affection. After discovery of residual urine, the nervous system should be examined and the prostate palpated through the rectum to exclude cancer and tuberculosis. Cystoscopy is generally unnecessary. A careful examination should also be made for a calculus; the presence of stones for years in the bladder may cause no symptoms. The bowels must be kept open and regular, to prevent aggravation of prostatic trouble. Extreme care should be taken not to "catch cold," as this is especially liable to induce cystitis. Such patients should sleep in a warm room in winter and should wear woolen stockings and underwear. Wulff deprecates the dread of the catheter. If infection, hemorrhage and debility compel surgical measures, the only treatment is prostatectomy; partial operations are inadvisable.

96. **Headache and Syphilis.**—Pickenbach reports two interesting cases in which tentative syphilitic treatment cleared up the diagnosis and cured intense headache rebellious to all other measures. The first patient was an apparently healthy woman of 38, with a healthy husband and children. Headache suddenly developed refractory to treatment for neuralgia. Examination for a brain tumor proved negative, but an old scar gave the clue to a mild brief syphilitic infection twenty years before, and complete cure followed under potassium iodid. The other patient was a young man.

Monatsschrift für Geburtshülfe und Gynäkologie, Berlin

October, XXX, No. 4, pp. 417-540

100 *Genital Hemorrhages in Hemophiliacs. (Genitalblutungen bei HÄmophilie.) L. Fränkel and L. Böhm.
101 Is Cesarean Section an Advance in Treatment of Placenta Prævia? (Bedeutet der Kaiserschnitt einen Fortschritt in der Therapie der Placenta prævia?) J. Novak.
102 *Sterile Catgut. (Steril-Katgut.) F. Kuhn (Kassel).
103 Elimination of Antitoxin and Precipitinogen Through the Mammary Gland of Passively Immunized Mothers. (Ausscheidung von Antitoxin und Präzipitinogen durch die Milchdrüse bei passiv immunisierten Müttern.) M. Sohma.

100. **Genital Hemorrhage in Hemophiliacs.**—Fränkel and Böhm review the facts known to date in regard to bleeders; two-thirds of all the hemophiliacs known belong to bleeder families. The majority of the bleeders die young, but Fränkel and Böhm have discovered that this hemorrhagic diathesis is fully as common among women as in the male sex. They have encountered 7 such cases in which nothing but hemophilia could explain the tendency to genital hemorrhage. The hemophilia was evidently inherited in 5 and sporadic in the other cases. They have found records of 151 similar cases in the literature, with a positive heredity in 99 cases, dubious in 18 others. The data show that the genital organs seem to possess some special mode of defense so that even in hemophiliacs the danger from this source is not so excessive as might be expected, although in 10 cases on record the women bled to death during menstruation while 6 others barely escaped this fate. In 32 cases the hemorrhage never ceased spontaneously. The duration of the hemorrhage ranged from three to sixty-four days, in one case over fifteen months. There did not seem to be any special tendency to abortion or premature delivery in these women; 100 became pregnant. There were 30 fatal hemorrhages in the total of 151 cases, but only 24 in consequence of genital hemorrhages. Prophylaxis and treatment comprise internal treatment of the hemorrhagic diathesis and local gynecologic measures; marriage can be permitted to a male hemophiliac but not to a female. Besides general tonic measures, he advises calcium salts internally and, locally, adrenalin, gelatin and blood serum; tamponing of the uterus and vagina is the sovereign measure, gelatin and serum requiring at least two hours before their influence is felt. The general impression left by the article is that although hemophilia is always a serious affection, yet it can be kept under control better in women than in men. Women are naturally used to greater losses of blood than men, and are better provided with means to arrest hemorrhage and to recuperate after loss of blood. It is generally assumed that women are less subject to hemophilia than men, the proportion being stated variously as 1 in 4 down to 1 in 13. The total 104 cases in which female hemophilia was manifested in genital hemorrhage are tabulated for comparison, the list filling twenty pages.

102. **Sterile Catgut.**—THE JOURNAL has mentioned from time to time Kuhn's plea that catgut should be obtained and prepared with as strict regard to asepsis at every stage of the process as in the production of diphtheria antitoxin. He here describes the technic which he has worked out from this point of view to produce what he asserts is "absolutely sterile catgut."

Münchener medizinische Wochenschrift

October 12, LVI, No. 41, pp. 2089-2144

104 *Suture of Gunshot Wounds of the Lung. (Behandlung schwerer Schussverletzungen der Lunge mit Naht.) M. Grasmann.
105 *Serodiagnosis of Syphilis. (Erfahrungen mit der Wassermann-Neisser-Bruckschen Syphilisreaktion.) A. Reinhart. (Mechanismus der Serореaktion der Lues.) H. Liefmann.
106 Cobra Venom Reaction in the Insane. (Die Muchsche Hemmungsreaktion bei Geisteskranken.) Nitsche, H. Schlimpert and H. Dunzelt.
107 *Early Diagnosis of Measles. (Zur Frühdiagnose der Masern.) Hecker.
108 *Disturbances in the Feet. (Fussbeschwerden.) F. Tausch.
109 Alimentary Glycosuria in Chronic Enteritis. K. Funck.
110 *Radiotherapy of Tuberculous Bone Lesions. (Strahlenbehandlung der Knochentuberkulose.) L. Freund.
111 Influence of Carlsbad Cure on Gall-Stone Trouble. (Fünfter Bericht über den Einfluss des Kurgebrauches in Karlsbad auf das Gallensteinleiden.) F. Fink.
112 *Geographical Distribution of Diabetes. B. T. Williamson.

104. **Suture of Lung for Gunshot Wound.**—Grasmann has found on record 18 cases of injury of the lung treated by suture. The list includes 9 cases of gunshot wounds with recovery of 6 of the patients and 6 stab wounds with 5 recoveries, a fatal case of rupture of the lungs, and 2 cases in which the actual injury is not mentioned. He reports the details of 2 cases from his own experience in which prompt suture of the lung after a gunshot wound was followed by recovery. The indication for operative interference in both was the distention from a pneumothorax and extravasation of blood in the pleura. The patients made a smooth recovery in each case, which he attributes to the complete evacuation of all blood from the pleural cavity.

105. **The Serореaction in Syphilis.**—Reinhart reports application of the Wassermann test in 1,600 cases. The findings were almost invariably negative in cerebral syphilis but positive findings were constant in syphilitic bone lesions. Of the parasyphilitic affections, paralysis gave the highest proportion of regular serum and cerebrospinal fluid positive findings. In tabes the findings were more frequently positive in the early than in the later phases.

107. **Early Diagnosis of Measles.**—Hecker has noticed a marked reduction in the total number of leucocytes as an early sign of measles infection, sometimes fully ten or eleven days before Koplik's spots became evident, but as a rule from one to three days before the development of the spots. There was a reduction also in the numbers of lymphocytes during the incubation of measles, and from three to five days before the spots developed. There seems to be actually a disappearance of lymphocytes with a slight increase in the neutrophiles. This premonitory reduction in the numbers of lymphocytes and the reduction in the total numbers of leucocytes just before the appearance of the eruption may prove important for early differentiation of measles in institutions.

108. **Static Disturbances in the Feet.**—Tausch has had occasion to study in his own person a disturbance in the foot which causes great discomfort with scarcely any objective

findings. The foot is inclined to assume the valgus position when bearing weight and it tires readily. The fatigue is felt more in the calf of the leg than in the foot itself and pain develops similar to that of phlebitis, for which it is often taken. The pain persists even after retiring. It may extend into the thigh or buttocks and may simulate neuralgia. Various muscles become involved as the insufficiency of the muscles of supination increases. Treatment should include the wearing of proper shoes, strengthening the supination muscles with gymnastic exercises, learning to plant and raise the foot normally, supplemented by mechanical means to restore normal static conditions in the foot, correcting the pronation angle and supporting the arch until the foot is brought from the valgus position into supination, placing it on a slanting plane provided by an insole made from a cast of the foot taken while it is bearing the weight of the body. With a correct insole, the stiff joint mobilized with gymnastic exercises, and the atrophied muscles strengthened, all disturbances vanish at once, and the patients are relieved from what seemed to be an incurable and tormenting affection. Tabes had been assumed in some of the cases to which he refers.

110. **Radiotherapy of Tuberculous Bone Processes.**—Freund discusses the advantages of heliotherapy in treatment of these lesions, supplemented by radium and Roentgen treatment on days without sufficient sunshine. His experience has been favorable.

112. **Geographical Distribution of Diabetes.**—Williamson's figures show that the mortality from diabetes per 100,000 inhabitants ranges from 6.6 to 12.7 in the different cities of England and Wales, with a general average for the country of 9.6; in Malta and Gozo, 37.8. In Europe the extremes are 5 in Helsingfors, 4.5 in Italy to 15.8 in Copenhagen, 20 in Berlin and 25.8 in Bordeaux; in Asia, from 0.15 in Hong Kong to 9.2 in Calcutta; in America, from 5.8 in the province of Quebec to 27.3 in Worcester, Mass., with 17.4 in New York, 10.7 in Chicago and 17.9 in Boston, and a general average for the United States of 13.9; for Australia of about 8; for Buenos Aires, 5.6, and Cuba 2.8. His research, he states, shows that the disease is gradually increasing. Men are more frequently affected than women in most localities.

Gazzetta degli Ospedali e delle Cliniche, Milan

October 14, XXX, No. 123, pp. 1297-1304

113 *Suture Through Laparotomy of Severed Ureter over Retention Catheter. (Sutura per via addominale dell' uretere sinistro sopra catetere permanente dal rene in vescica.) A. Boari.

October 17, No. 124, pp. 1305-1320

114 Granules in Leucocytes in Gonorrhea, Taking Sudan Stain. (Le granulazioni sudanofili dei leucociti nel sangue del blenorragici.) G. Sarra.

October 19, No. 125, pp. 1321-1328

115 Difference Between the Temperature of the Axillæ in Tuberculous Patients. (Differenze tra le due temperature ascellari nei polmoniti.) L. Casali.

October 21, No. 126, pp. 1329-1336

116 Surgical Treatment of Jacksonian Epilepsy. T. Clemente.

113. **Suture of the Ureter.**—Boari introduces a catheter into the ureter and merely approximates the stumps of the ureter over the catheter, joining the stumps together with interrupted sutures without invaginating one stump into the other which is almost sure to entail stenosis. The retention of the catheter in the ureter caused no disturbances, although it projected for nearly three inches into the bladder in the case described. After allowing ten days for the suture of the ureter to heal, he extracted the retained catheter with the aid of the cystoscope, and there has been nothing to suggest any anomaly in the ureter during the two years since. A catheter passed through the ureter up into the kidney meets with no obstacles. The ureter was injured in his case during a hysterectomy.

Policlinico, Rome

October 10, XVI, No. 41, pp. 1285-1316

117 *Hemolytic Jaundice and Syphilitic Infection. (Gli itteri emolitici e l'infezione sifilitica.) G. Basile.

118 *Tabes Dorsalis. (Sopra un caso di tabe dorsale.) E. Fenoglietto.

117. **Jaundice from Hemolysis: Syphilitic Origin.**—Basile refers to the jaundice in which the trouble is evidently the result of extra fragility on the part of the red corpuscles. Autopsy in the few such cases examined post-mortem disclosed that the liver and biliary passages were intact. Syphilitic infection may be responsible for the extra fragility of the corpuscles in some of these cases.

118. **Tabes Dorsalis plus Morphin Addiction.**—The gastric crises in the case reported were followed by intestinal crises, sometimes brought on by a purgative or enema. The tabes developed in this case as early as five years after primary syphilitic infection, and mercurial treatment seemed to have a favorable influence in reducing the frequency and severity of the crises.

Policlinico, Rome

October, XVI, Surgical Section, No. 10, pp. 429-476

119 Sarcoma as Recurrence of Carcinoma in the Thyroid. F. Nassetti.

120 *Organic Free Bodies in Hernial Sac and in Peritoneal Cavity. (Dei corpi organizzati nei sacchi erniari e nella cavita peritoneale.) G. Palazzo.

120. **Organic Free Bodies in Hernial Sac and Peritoneum.**—Palazzo gives the details in tabulated form of 18 cases from the literature in which an organic body was found free in a hernial sac, and of 31 others in which a similar organic body was found free in the peritoneum. In 2 cases personally observed the organic body found non-adherent in the hernial sac was a fragment of omentum, evidently detached from a fold of the omentum included in the hernia at first. He further describes experiments on dogs and guinea-pigs striving to induce the production of an organic foreign body in the peritoneum by injection of fresh fibrin or extract of organs with an internal secretion, or of dead micro-organisms liable to induce precipitation of fibrin. The results were constantly negative.

Riforma Medica, Naples

October 11, XXV, No. 41, pp. 1121-1148

121 Central Neuropathies of Malarial Origin. (Anartria, convulsioni epilettiformi, sindrome cerebellare.) E. Grande.

October 18, No. 42, pp. 1149-1176

122 *Differentiation, Prophylaxis and Treatment of Septicemic Fevers. (Sulle' febbri e febbricole setticemiche polimorfe. XI.) G. Rummo. Commenced in No. 41.

123 Mixed Cirrhosis. (Contributo clinico ed anatomo-patologico allo studio delle cirrosi miste.) T. Casoni.

122. **Differentiation of Typhoid, Paratyphoid and Malta Fevers.**—Rummo tabulates for comparison the various clinical features of these fevers. In the last two the spleen does not become enlarged, or only slightly, late in the disease, while there is generally obstinate constipation and the fever starts with abrupt onset and a chill, without prodrome, while the type is altogether different from the typhoid curve. He warns, however, that in all three the prognosis should be guarded. The general idea that paratyphoid and Malta fever are benign affections is frequently shown to be erroneous by the serious form which they sometimes assume. In Malta fever in particular, the disease may drag along to such an extent that it may be regarded as the one of the trio which is liable to try the patience most of both patient and physician. Early differentiation of typhoid is of the greatest importance as otherwise household remedies may be applied which are liable to do irreparable harm. The diet may be a little less exclusive in paratyphoid and Malta fever than in typhoid, but he warns that convalescence from typhoid is like a new disease which has to be supervised and combated, mainly on account of the impatience and appetite of the patient and the heedlessness of his friends. Nothing but milk should be allowed, he declares, for a week after defervescence.

Hospitalstidende, Copenhagen

September 1, LII, No. 35, pp. 1081-1104

124 *Roentgen-Ray Treatment of Skin Diseases. (Behandling af Hudsygdomme med Röntgenstraaler.) A. Reyn. Commenced in No. 34.

September 8, No. 36, pp. 1105-1136

125 Two Cases of Gas Constantly in the Urine. (To Tilfælde af Pneumaturi.) E. Sørensen.

126 Successful Thyroid Treatment in One of Two Cases of Dementia Præcox. P. Levison.

September 15, No. 37, pp. 1137-1168

127 Serum Anaphylaxis in Forensic Tests of Blood. (Fortsatte Undersøgelser over Blodanafylaxi og denne Reaktions Anvendelse i Retsmedicinen.) O. Thomsen.

128 *"Primary" Tuberculosis of the Spleen. (Milttuberkulose.) C. Permin.

124. Roentgen-Ray Treatment of Skin Diseases.—Reyn reports from the Finsen Light Institute at Copenhagen the experiences with various skin affections treated by Roentgen exposures during the last year. His experience with eczema was extremely favorable, only 17 of the total of 184 patients not displaying more or less marked benefit, amounting to a permanent cure in 88 and in 15 others after a slight recurrence had been treated. The others did not continue the exposures to a complete cure but were satisfied with the results already attained. He regards Roentgen treatment as the most valuable means at our command for eczema rebellious to the ordinary measures perseveringly applied. The affection in some of his cases was from two to five years' standing in 43, from five to ten in 41, and from ten to twenty in 40. The experiences with other cutaneous affections were contradictory, complete cure in some and failure in others. In treatment he uses only from one-half to two-thirds of the S N erythem dose (Sabouraud and Noire radiometer) and fractions it over three days. The series is repeated again if necessary after a pause of three weeks. In 100 cases of epithelioma the results of Roentgen treatment were also encouraging; much larger doses were required, about two erythem doses, S N, fractioned over two days. He appends an extensive bibliography on Roentgen treatment of cutaneous affections.

128. Primary Tuberculosis of the Spleen.—Permin's patient was a man of 21 supposedly healthy until a period of languor and depression so extreme that he entered the hospital after two months. During the last week he had also experienced oppression and pain in the left side of the abdomen, soon accompanied by high fever, slight cyanosis, enlarged glands in the neck, axillæ and groins, a solid tumor in the region of the spleen and anemia. The leucocyte picture was approximately normal. The spleen was found studded with tuberculous nodules and was removed, after which all symptoms vanished and the patient returned to work. Parmin reviews the other cases of the kind on record, this being the eleventh in which splenectomy has been done for primary tuberculosis of the spleen, and discusses the differentiating points. At the time of the operation there were no signs of tuberculosis elsewhere but the patient returned to the hospital before the year was out with pleurisy and signs of apical involvement, although the sputum was free from tubercle bacilli. The glands in the neck suppurated, and after their removal pleurisy developed, which ended fatally on the ninth day. The case emphasizes the importance of general measures after the splenectomy to tone up the general health instead of allowing the patient to resume at once his former occupation. It also shows that splenectomy is a comparatively harmless means of freeing the patient from the otherwise fatal tuberculous process in the spleen.

Ugeskrift for Læger, Copenhagen

September 23, LXXI, No. 38, pp. 1049-1070

129 *Origin of Uric Acid. (Fortsatte Undersøgelser over Urinsyrens Oprindelse.) H. Trautner. Commenced in No. 37.

129. Origin of Uric Acid.—Trautner reports extensive research which has convinced him that uric acid is the result of proliferation of colon bacilli causing a more or less latent chronic colitis. These bacilli produce reducing substances which undergo chemical changes in the blood and may be the first stages of uric acid. He discusses the medical history of uric acid, the lack of it in young children, of whom he examined 88, and also the lack of colon bacilli in the newborn and in older infants in health. He found both colon bacilli and uric acid in children with intestinal derangement. In examining 25 older children, including 13 with diarrhea, the presence and amount of uric acid in the urine and of colon bacilli in the feces constantly paralleled each other. He also found in experiments on 22 young rabbits that there was no appreciable uric acid in the urine when there were no colon bacilli in the feces, but that the uric acid appeared when the animals were given colon bacilli added to their food. He also examined 32 typhoid patients, 70 patients who had a history of typhoid, and 327 other persons either normal or with other affections. The uric acid disappears from the urine during typhoid more or less completely and the proportion persists low for a long time, suggesting that the typhoid bacilli seem to deprive the colon bacilli of some substance, normally present in the intestines, which they require for their growth. The proportion of uric acid in the urine of a person with a tendency to gout, rheumatism or uricacidemia increases during constipation He found that the fetal uric acid in the new-born disappeared in the course of five days, and that none was detectable thereafter, while there were no colon bacilli at first and they were scanty in the infants' stools later.

Books Received

All books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

QUAIN'S ELEMENTS OF ANATOMY. Editors, Edward Albert Schäfer, LL.D., Sc.D., F.R.S., Professor of Physiology and Histology in the University of Edinburgh, Johnson Symington, M.D., F.R.S., Professor of Anatomy in the Queen's University of Belfast, and Thomas Hastie Bryce, M.A., M.D., Professor of Anatomy in the University of Glasgow. In Four Volumes. Vol. III, Neurology. By E. A. Schäfer and J. Symington. Part II. Containing the Descriptive Anatomy of the Peripheral Nerves and of the Organs of Special Sense. Eleventh Edition. Cloth. Pp. 363, with illustrations. Price, 15 shillings net. New York: Longmans, Green & Co., 1909.

MATERIA MEDICA AND THERAPEUTICS, PREVENTIVE MEDICINE, CLIMATOLOGY. Edited by George F. Butler, Ph.G., M.D., Henry R. Favill, A.B., M.D., Norman Bridge, A.M., M.D. Vol. VIII of The Practical Medicine Series. Under the General Editorial Charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Series 1909. Cloth. Pp. 338. Price, $1.50. Chicago: The Year-Book Publishers.

A SYSTEM OF MEDICINE. By Many Writers. Edited by Sir Clifford Allbutt, K.C.B., M.A., M.D., LL.D., D.Sc., F.R.C.P., F.R.S., F.L.S., F.S.A., Regius Professor of Physic in the University of Cambridge, and Humphry Davy Rolleston, M.A., M.D., F.R.C.P., Senior Physician, St. George's Hospital. Vol. VI, Diseases of the Heart and Blood-Vessels. Cloth. Pp. 844, with illustrations. Price, $1.50 net. New York: The Macmillan Co., 1909.

DISEASES OF THE NOSE, THROAT AND EAR, Medical and Surgical. By William Lincoln Ballenger, M.D., Professor of Otology, Rhinology and Laryngology, College of Physicians and Surgeons, Department of Medicine, University of Illinois. Second Edition. Cloth. Pp. 901, with illustrations. Price, $5.50 net. Philadelphia: Lea & Febiger, 1909.

DIE INNERE UND DIE CHIRURGISCHE BEHANDLUNG DER CHRONISCHEN MAGENGESCHWÜRE UND IHRE ERFOLGE. (Work Awarded the Alvarenga Prize by the Hufelandsche Gesellschaft.) By Dr. L. Bamberger, Head Physician at the Grunewald Sanatorium. Paper. Pp. 269. Price, 8 marks. Berlin: Julius Springer, 1909.

I. THE PRESENCE OF TUBERCLE BACILLI IN THE CIRCULATING BLOOD IN CLINICAL AND EXPERIMENTAL TUBERCULOSIS. By John F. Anderson. II. THE VIABILITY OF THE TUBERCLE BACILLUS. By M. J. Rosenau. Hyg. Lab. Bull. No. 57, September, 1909. Paper. Pp. 42. Washington: Government Printing Office, 1909.

PRIMER OF SANITATION. A Simple Work on Disease Germs and How to Fight Them. By John W. Ritchie, Professor of Biology, College of William and Mary, Virginia. Cloth. Pp. 196, with illustrations. Price, 50 cents. Yonkers-on-Hudson, New York: World Book Co., 1909.

INTRODUCTION TO PRACTICAL CHEMISTRY. For Medical, Dental, and General Students. By A. M. Kellas, B.Sc., Ph.D., Lecturer on Chemistry at the Middlesex Hospital Medical School. Cloth. Pp. 249. Price, $1.35. New York: University Press, 1909.

ANATOMY AND PHYSIOLOGY OF THE NERVOUS SYSTEM. By Sedgwick Mather, M.A., Professor of Neurology, The American College of Neuropathy. Cloth. Pp. 145, with illustrations. Price, $1.50 net. Philadelphia: John Joseph McVey, 1909.

SOME PLANS AND SUGGESTIONS FOR HOUSING CONSUMPTIVES. Paper. Pp. 87, with illustrations. Published by the National Association for the Study and Prevention of Tuberculosis, 105 East Twenty-second Street, New York, 1909.

PROBLEME DER TUBERKULOSEFRAGE. By Dr. Julius Bartel, Privatdocent and Assistant at the pathologisch-anatomischen Universitätsinstitut in Vienna. Paper. Pp. 146. Leipsic and Vienna: Franz Deuticke, 1909.

DIE SERODIAGNOSE DER SYPHILIS. By Dr. Carl Bruck, Privatdozent and Oberarzt of the Dermatologische Universitätsklinik in Breslau. Paper. Pp. 166. Price, 4.80 marks. Berlin: Julius Springer, 1909.

AIR AND HEALTH. By Ronald Campbell Macfie, M.A., M.B.C.M., Author of "The Romance of Medicine," etc. Cloth. Pp. 328. Price, $2.50. New York: E. P. Dutton & Co., 1909.

TRANSACTIONS OF THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA, Organized 1847, Meeting of 1909. Birmingham, April 20-23. Cloth. Pp. 714.

THE PHYSICIAN'S VISITING LIST FOR 1910. Flexible Leather, with Pocket and Flap. Price, $1.00 net. Philadelphia: P. Blakiston's Son & Co.

THE DECAY OF THE CHURCH OF ROME. By Joseph McCabe. Cloth. Pp. 309. Price, $2.50. New York: E. P. Dutton & Co., 1909.

CANCER AND SARCOMA. By H. D. Walker, M.D., Buffalo, N. Y. Paper. Pp. 59, with illustrations.

V 51
1909